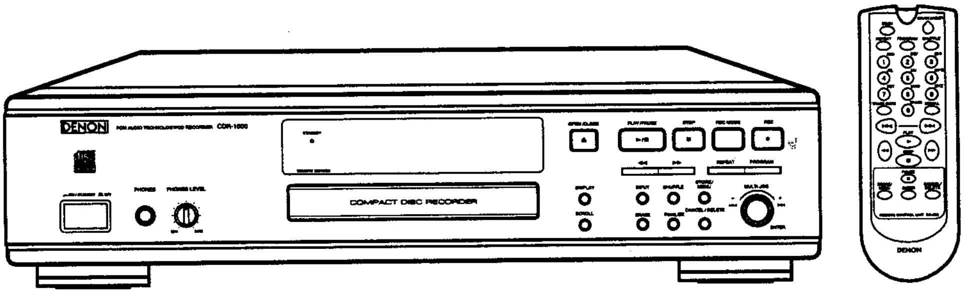
DENON

Hi-Fi Component

SERVICE MANUAL

MODEL CDR-1000

CD RECORDER



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- **Some illustrations using in this service manual are slightly different from the actual set.**

NIPPON COLUMBIA CO., LTD.

SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 460 kohms, the unit is defective.

SPECIFICATIONS

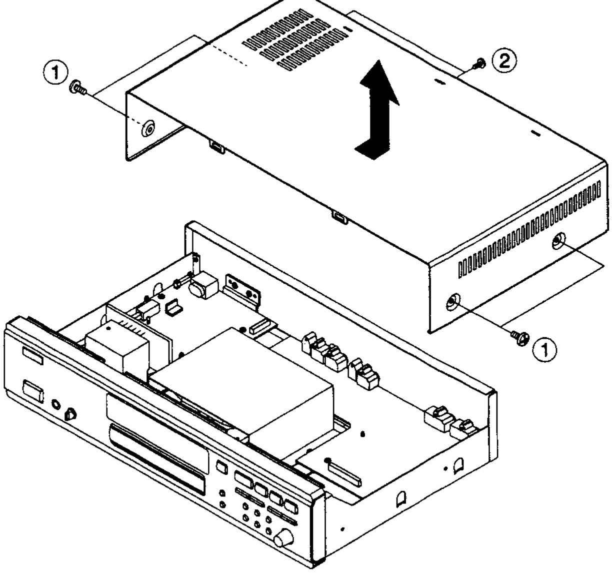
Audio		
Frequency Response:	2 Hz ~ 22.05 kHz	
Dynamic Range:	During digital recording/playback:	100 dB
Signal-to-noise Ratio:	During digital recording/playback:	108 dB
Harmonic Distortion:	During digital recording/playback:	0.003% (1kHz)
Separation:	During digital recording/playback:	105 dB
Digital input recording/playback performance:	Same as for CD playback	
Analog input recording sensitivity:	500 mV	
Wow and Flutter:	Below measurable limit:	(±0.001% W. peak)
Output Voltage:	2.0 V	
Discs	CD-DA (Compact Disc-Digital Audio) format	
	CD-R Discs for Audio consumer use	
	CD-RW Discs for Audio consumer use	
Signal Format		
Sampling frequency:	44.1 kHz	
Quantization bits:	16 bits linear/channel	
Transfer bit rate:	4.3218 Mb/sec.	
Digital Output Signal Format		
Format:	Digital Audio Interface	
Coaxial output voltage:	0.5 Vp-p, 75 Ω/ohms	
Optical output:	–15 dBm ~ –21 dBm	
Emission wavelength:	660 nm	
General Characteristics		
Power Supply:	AC 120V, 60 Hz (U.S.A. & Canada model)	
	AC 230V, 50 Hz (Europe model)	
Power consumption:	26 W	
Dimensions:	434 (W) x 100.5 (H) x 285 (D) mm	
	17-1/16 (W) x 3-15/16 (H) x 11-3/16 (D)	
Weight:	4.5 kg (9.921 lbs.)	
Remote Control Unit	RC-276	
Remote control system:	Infrared pulse system	
Power supply:	3V; DC, two R03 (standard size AAA) dry cell batteries	
External dimensions:	50 (W) x 144 (H) x 24 (D) mm	
	1-15/16 (W) x 5-5/8 (H) x 15/16 (D)	
Weight:	70 g (0.1543 lbs.) (including batteries)	

DISASSEMBLY

(Follow the procedure below in reverse order when reassembling)

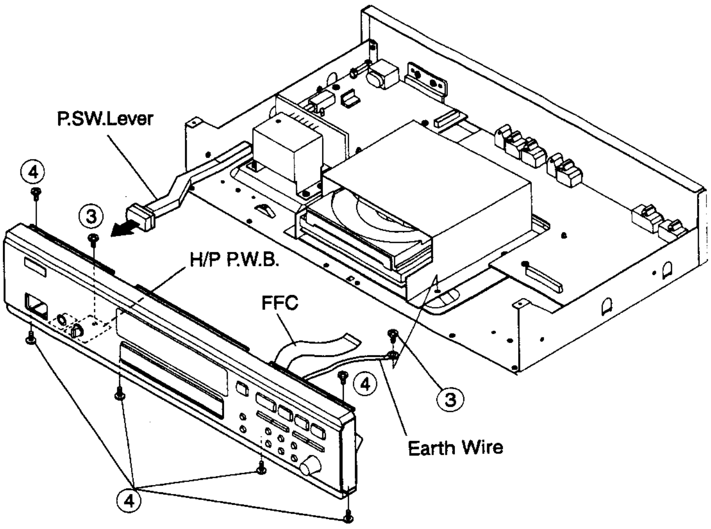
1. Top Cover

(1) Remove 4 screws ① on both sides.
(2) Remove 2 screws ② on the rear.
(3) Detach the Top Cover as shown to the arrow direction.



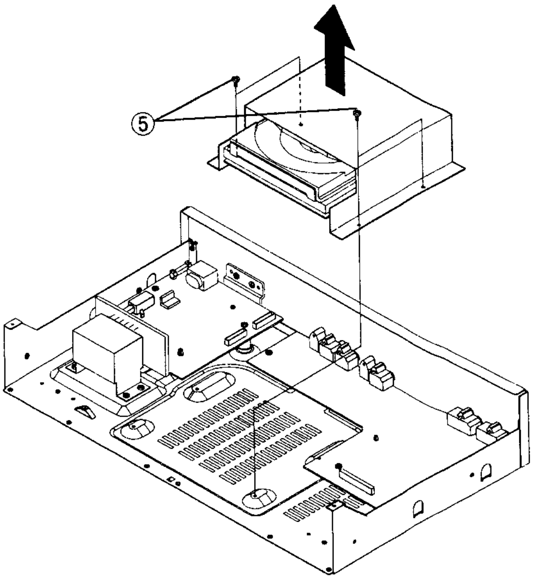
2. Front Panel

(1) Remove the P. SW. Lever.
(2) Disconnect FFC coming from the Display P.W.B., and the connector from the H/P P.W.B.
(3) Remove 2 screws ③ fixing the earth wire and H/P P.W.B. respectively.
(4) Remove 6 screws ④ from the top and bottom edges of the Front Panel.



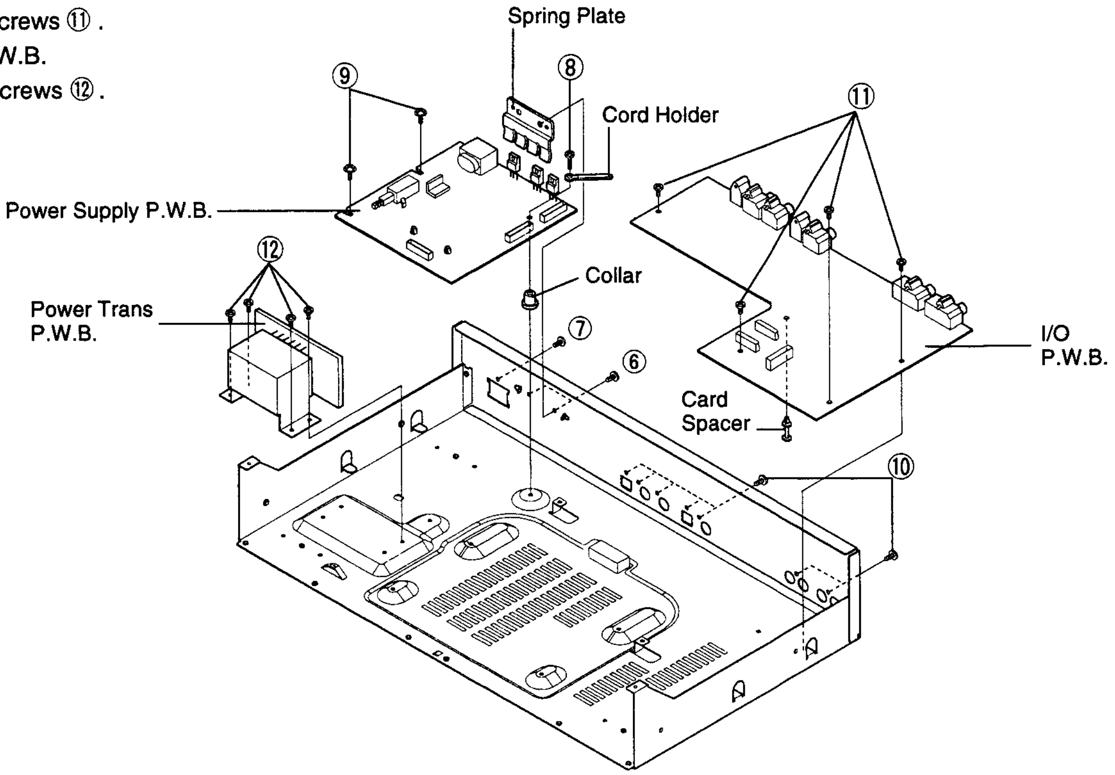
3. Mecha. Unit

(1) Remove 4 screws ⑤ fixing the Mecha. Unit.
(2) Disconnect 2 connectors and FFC coming from the Mecha. Unit.
(3) Detach the Mecha. Unit as shown to the arrow direction.
* The Mecha. Unit can be detatched without removing the Front Panel.



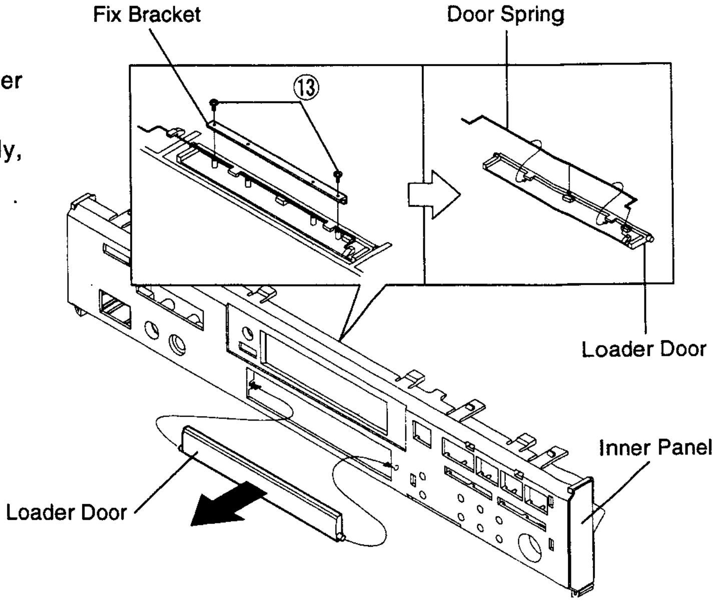
4. Each P.W.B.

- Power Supply P.W.B.
  - (1) Remove 2 screws ⑥ and detatch the Spring Plate.
  - (2) Remove 1 screw ⑦.
  - (3) Remove 1 screw ⑧ and 2 screws ⑨.
- I/O P.W.B.
  - (1) Remove 7 screws ⑩.
  - (2) Remove 4 screws ⑪.
- Power Trans P.W.B.
  - (1) Remove 4 screws ⑫.


Spring Plate
⑨
⑧
Cord Holder
⑪
Power Supply P.W.B.
⑫
Collar
Power Trans P.W.B.
⑦
⑥
I/O P.W.B.
Card Spacer
⑩

5. Loader Door

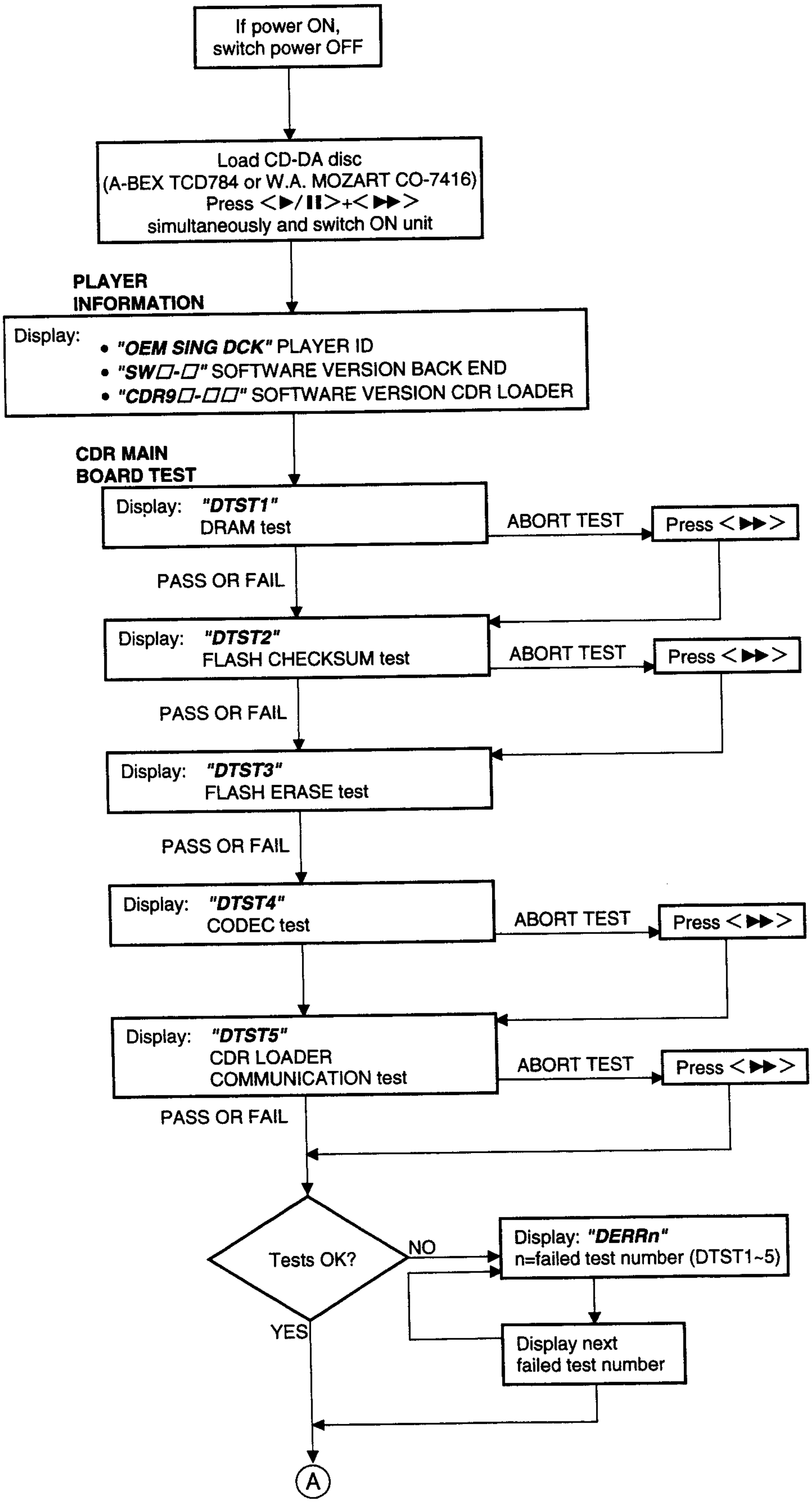
1. (1) Detach the Inner Panel from the Front Panel.
2. (2) Remove 2 screws ⑬ and detach the Fix Bracket.
3. (3) Remove the Door Spring from the hooks of the Loader Door.
4. (4) With bending the middle of the Loader Door slightly, detach it as shown to the arrow direction.

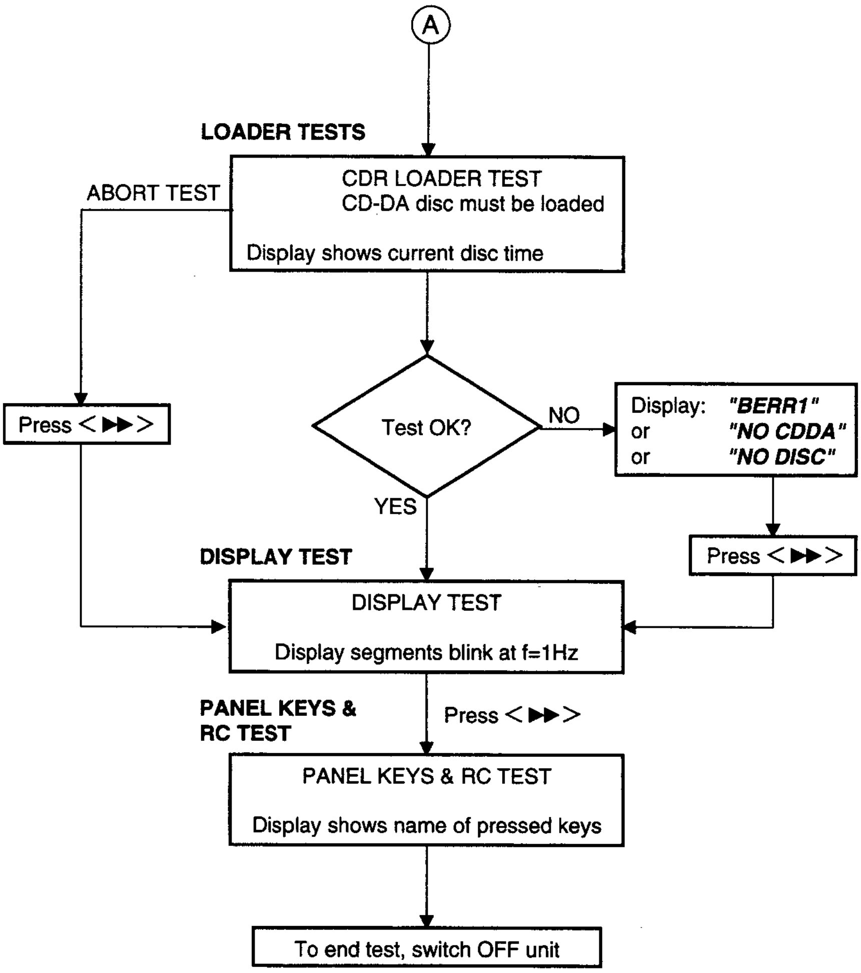

Fix Bracket
Door Spring
⑬
Loader Door
Inner Panel
Loader Door

DIAGNOSTIC SOFTWARE

If any error occurs in the following diagnostic function, be sure to replace the CD-R/RW Mecha.

1. Electrical service diagnostics (Software versions, test for defective components)


If power ON, switch power OFF
Load CD-DA disc (A-BEX TCD784 or W.A. MOZART CO-7416) Press <▶/❚❚>+<▶▶> simultaneously and switch ON unit
PLAYER INFORMATION
Display:
• "OEM SING DCK" PLAYER ID
• "SW□-□" SOFTWARE VERSION BACK END
• "CDR9□-□□" SOFTWARE VERSION CDR LOADER
CDR MAIN BOARD TEST
Display: "DTST1" DRAM test
ABORT TEST
Press <▶▶>
PASS OR FAIL
Display: "DTST2" FLASH CHECKSUM test
ABORT TEST
Press <▶▶>
PASS OR FAIL
Display: "DTST3" FLASH ERASE test
PASS OR FAIL
Display: "DTST4" CODEC test
ABORT TEST
Press <▶▶>
Display: "DTST5" CDR LOADER COMMUNICATION test
ABORT TEST
Press <▶▶>
PASS OR FAIL
Tests OK?
NO
YES
Display: "DERRn" n=failed test number (DTST1~5)
Display next failed test number
A


A
LOADER TESTS
ABORT TEST
CDR LOADER TEST
CD-DA disc must be loaded
Display shows current disc time
Press <▶▶>
Test OK?
NO
YES
Display: "BERR1"
or "NO CDDA"
or "NO DISC"
Press <▶▶>
DISPLAY TEST
DISPLAY TEST
Display segments blink at f=1Hz
PANEL KEYS & RC TEST
Press <▶▶>
PANEL KEYS & RC TEST
Display shows name of pressed keys
To end test, switch OFF unit

1-1 Description

The intention of the electrical service diagnostics is to show the software versions present in the player and to direct the dealer towards defective internal units. The units are : the CDR main board, the CDR loader and the keyboard/display board. A sequence of tests is executed automatically. Some of the tests can be aborted or skipped without the result being taken into account. External tools or disassembly of the unit is not necessary to get the diagnostic information. Pressing keys <▶/❚❚> and <▶▶> simultaneously while switching off the units ends the test.

1-2 Requirements to perform the test

- A CD-DA disc with a minimum of 3 tracks in all trays to perform the disc test (A-BEX TCD784 or W.A. MOZART CO-7416).

1-3 Description of the tests

Player Information
In this part of the test the following important information can be checked without removing the Top cover:

- Recorder ID.
- Software-version back end of player.
- Software-version CDR loader.

CDR main board test
As soon as the CDR main board tests are finished, all failure messages (if any) will be displayed sequentially by pressing the <▶▶> key. The message "DERRn" will be displayed with n indicating the faulty test number.
If one of the tests is aborted with the <▶▶> key, no error message will be displayed for this test. The flash data erase test ("DTST3") can not be aborted !
The CDR main board test consists out of :

DRAM test
Display : "DTST1". The DRAM used for buffer management is tested by writing, reading and verifying test patterns.

Flash checksum test
Display : "DTST2". This test checks the checksum of the player's software stored in the flash.

Flash data erase
Display : "DTST3". During this test, writing and erasing tests are performed using free areas in the

flash memory. The prerecorded data (Text, Recording level, etc.) won't be erased.

CODEC (ADC/DAC) test
Display : "DTST4". This test checks the CODEC IC by writing, reading and verifying test patterns.

CDR communication test
Display : "DTST5". The communication between the host processor (DASP) and the CDR loader via the DSA-R-bus is tested.

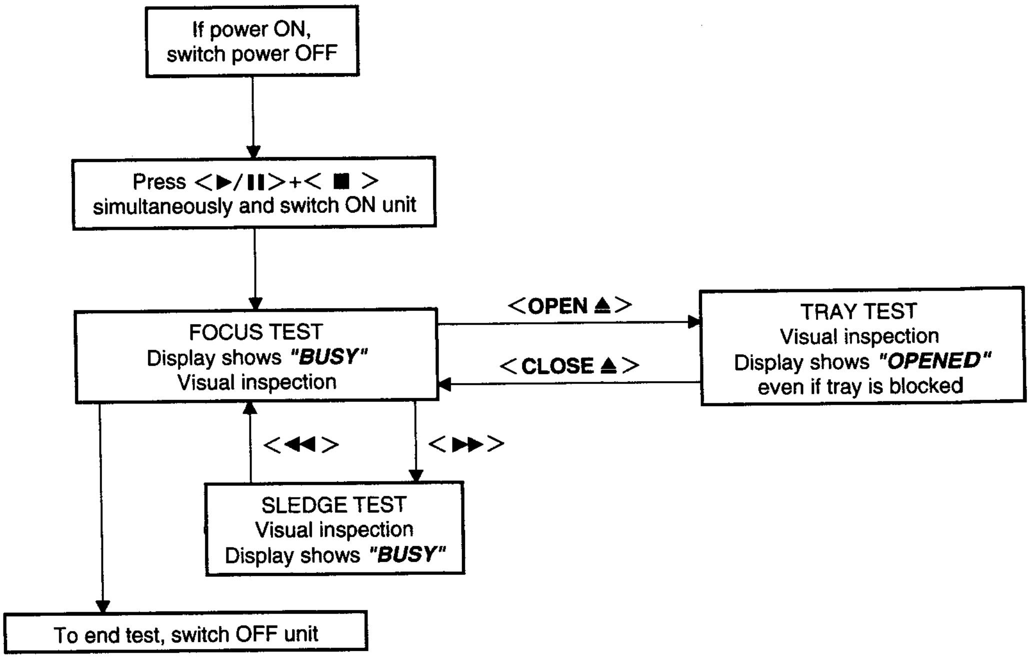
Loader test
This test determine if the CDR loader work correctly. A CD-DA disc with a minimum of 3 tracks needs to be inserted in loader. A disc test is executed to check focus control, disc motor control, radial control and jump grooves control. The disc test is performed by audio play-back of 5 seconds at the beginning, middle and end of the disc.

CDR loader test
During the test, the current disc time is shown. In case of an error the message "BERR1" will be displayed and the < ▶▶ > key must be pressed to continue with the following test. Pressing the < ▶▶ > key also aborts this test.

Display test
All segments will blink at a frequency of 1 Hz. Pressing the < ▶▶ > key will start the next test because the user has to check for himself if all segments work properly.

Panel keys and remote control tests
The test will give the user the ability to test every key without executing the function assigned to it. Therefore, the user needs to press every key on the panel and the remote control. The display will show the name of the key being pressed.

2. Mechanical service diagnostics (test for defective components)


If power ON, switch power OFF
Press <▶/❚❚>+< ■ > simultaneously and switch ON unit
FOCUS TEST
Display shows *"BUSY"*
Visual inspection
<OPEN ▲>
<CLOSE ▲>
TRAY TEST
Visual inspection
Display shows *"OPENED"*
even if tray is blocked
<◀◀>
<▶▶>
SLEDGE TEST
Visual inspection
Display shows *"BUSY"*
To end test, switch OFF unit

2-1 Description

No external tools are required to perform this test. The top cover needs to be removed and disc must be unloaded because the user has to check the movements of the tray, focus and sledge visually. Pressing keys <▶/❚❚> and < ■ > simultaneously while switching on the unit, starts the test. Switching off the unit ends the test.

2-2 Description of the tests

Focus control test
The focussing lens is continuously moving up and down. The display shows "BUSY".

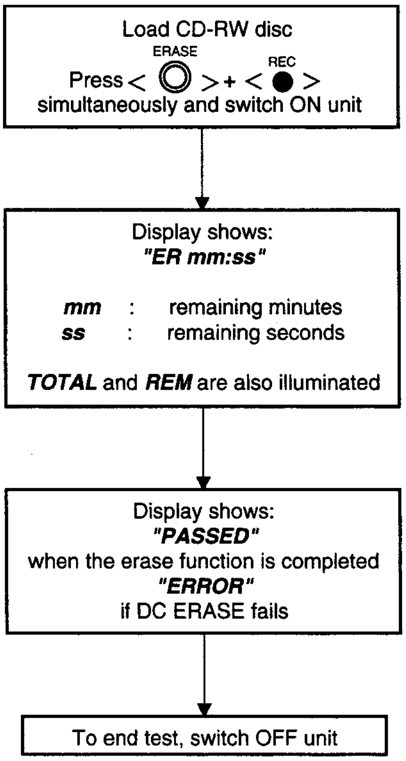
Sledge control test
After pressing < ▶▶ > the sledge continuously moves up and down. Pressing <◀◀ > stops the

sledge at the position it is in and the focus control test resumes. The display shows “BUSY”.

Tray control test

This test starts from within the focus control test routine. Pressing < ▲ > moves the tray in or out. Depending on the action the display shows “OPEN”, “OPENED”, “CLOSE” or “BUSY”.

3. DC-erase service mode (erasement of complete CD-RW)



Load CD-RW disc
Press < ERASE ◎ > + < REC ● >
simultaneously and switch ON unit

Display shows:
"ER mm:ss"

mm : remaining minutes
ss : remaining seconds

TOTAL and ***REM*** are also illuminated

Display shows:
"PASSED"
when the erase function is completed
"ERROR"
if DC ERASE fails

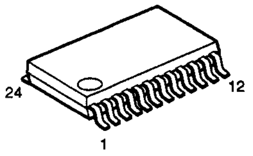
To end test, switch OFF unit

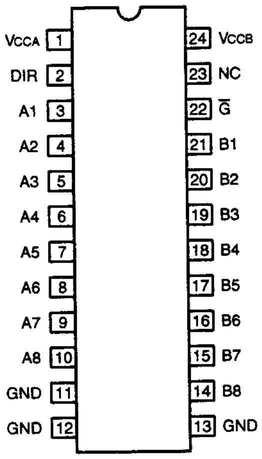
3-1 Description

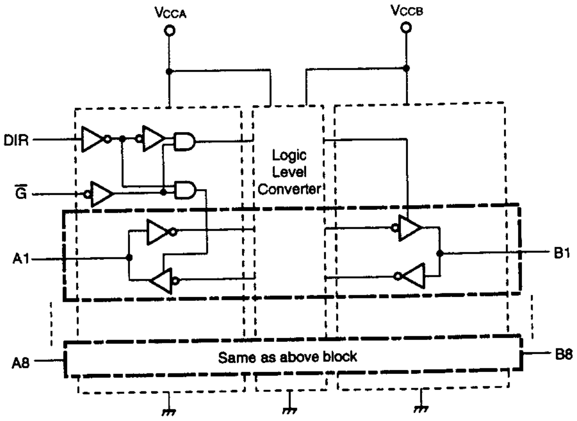
This mode is for recovering CD-RW discs when they are damaged (“DISC ERROR” indicated) during their recording by external shock etc. All recording area of the CD-RW disc (from PMA area to ATIP lead out area) is erased if this mode is executed. Erasing is made with double speed. Be sure to clean the disc’s recording surface before setting it.

The mode is initiated by pressing < ERASE ◎ > and < REC ● > simultaneously while switching on the unit. The display shows the countdown of the remaining time required for the operation to complete. In the case of a disc for 74 minutes, the countdown starts from ER40:00 (it takes 40 minutes to complete this mode). Power off the unit when “PASSED” message is displayed.

TC74LVXC3245FS (IC104)




VCCA 1
DIR 2
A1 3
A2 4
A3 5
A4 6
A5 7
A6 8
A7 9
A8 10
GND 11
GND 12
24 VCCB
23 NC
22 $\overline{G}$
21 B1
20 B2
19 B3
18 B4
17 B5
16 B6
15 B7
14 B8
13 GND

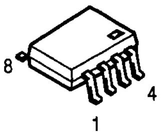

VCCA
VCCB
DIR
$\overline{G}$
Logic Level Converter
A1
B1
A8
Same as above block
B8

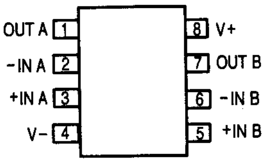
Truth Table

INPUTS		OUTPUTS	FUNCTION	
$\overline{G}$	DIR		A-BUS	B-BUS
L	L	A=B	OUTPUT	INPUT
L	H	B=A	INPUT	OUTPUT
H	X	Z	High Impedance	

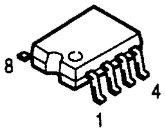
X : Don't Care
Z : High Impedance

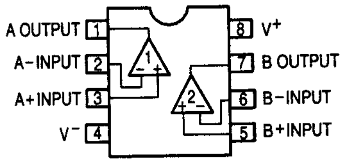
OP725GSR (IC103,105,109)



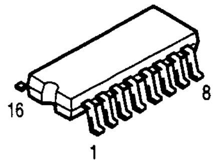

OUT A 1
-IN A 2
+IN A 3
V- 4
8 V+
7 OUT B
6 -IN B
5 +IN B

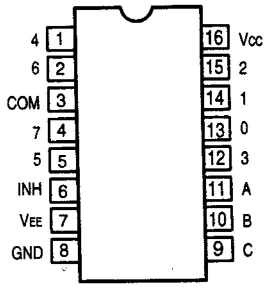
BA15128 (IC110)

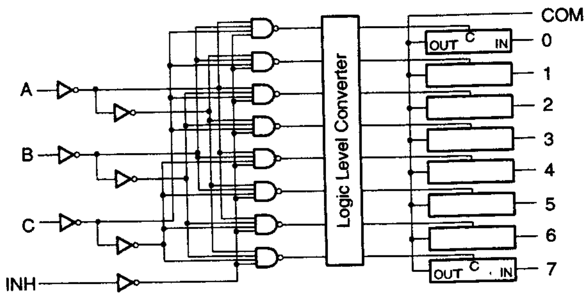



A OUTPUT 1
A-INPUT 2
A+INPUT 3
V⁻ 4
8 V⁺
7 B OUTPUT
6 B-INPUT
5 B+INPUT
1
2

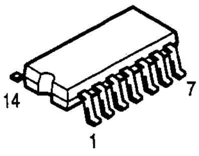
TC74HC4051AF (IC107,108)

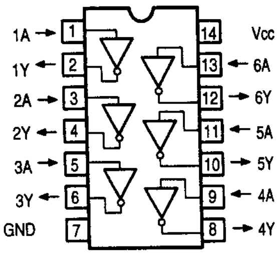



4 1
6 2
COM 3
7 4
5 5
INH 6
VEE 7
GND 8
16 Vcc
15 2
14 1
13 0
12 3
11 A
10 B
9 C

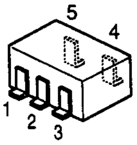

A
B
C
INH
Logic Level Converter
OUT
IN
COM
0
1
2
3
4
5
6
7

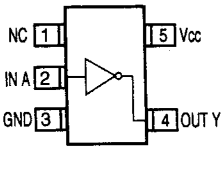
TC74HCU04AF (IC251,255)

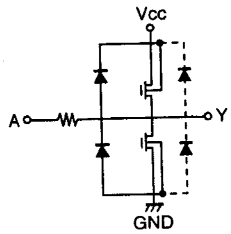



1A 1
1Y 2
2A 3
2Y 4
3A 5
3Y 6
GND 7
14 Vcc
13 6A
12 6Y
11 5A
10 5Y
9 4A
8 4Y

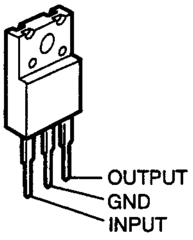
TC7SU04F (IC303)



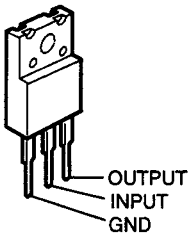

NC 1
IN A 2
GND 3
5 Vcc
4 OUT Y



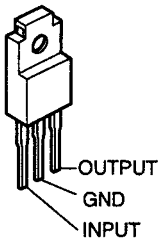
NJM78M09FA(S) (IC202)
NJM7812FA(S) (IC601)


OUTPUT
GND
INPUT

NJM79M09FA (IC201)
NJM7912FA (IC602)

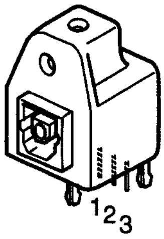

OUTPUT
INPUT
GND

μPC2405AHF (IC603)
μPC24A05HF (IC604)

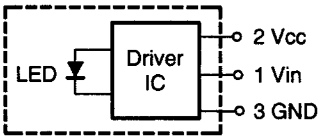

OUTPUT
GND
INPUT

● OPTICAL DIGITAL OUTPUT

GP1F32T (IC253)

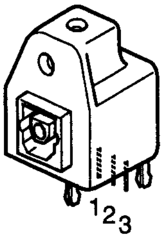


1. Vin
2. Vcc
3. GND

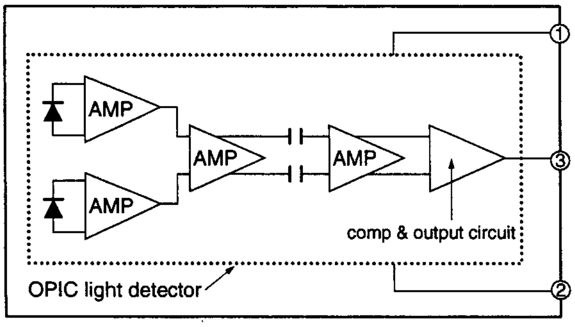

LED
Driver IC
2 Vcc
1 Vin
3 GND

● OPTICAL DIGITAL INPUT

GP1F37R (IC254)

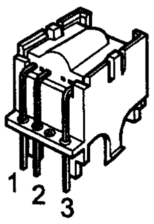


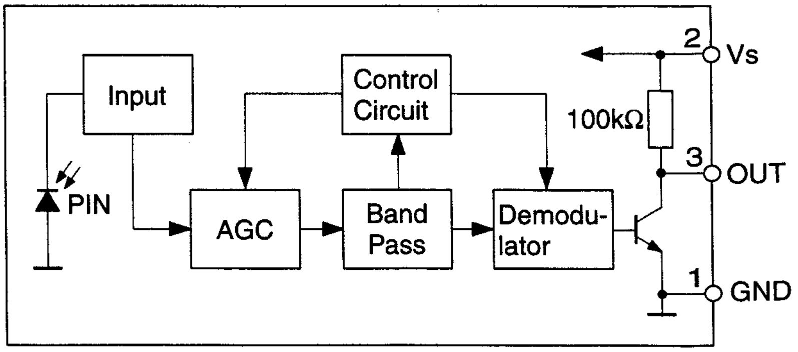
1. Vcc
2. GND
3. Vout


①
AMP
AMP
AMP
AMP
③
comp & output circuit
OPIC light detector
②

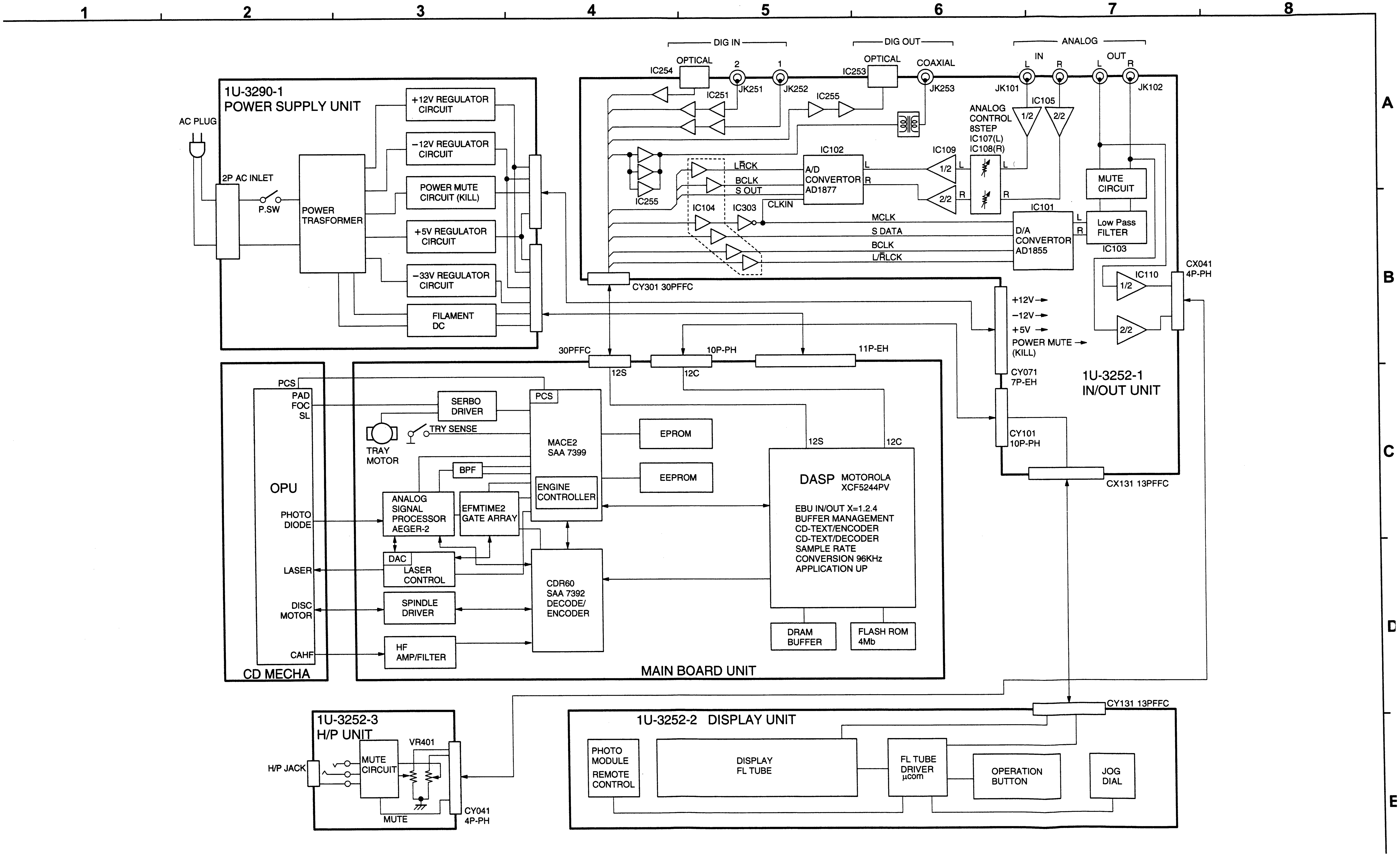
● REMOTE CONTROL SENSOR

TSOP1736 (IC302)




Input
Control Circuit
2
Vs
100kΩ
3
OUT
PIN
AGC
Band Pass
Demodu-lator
1
GND

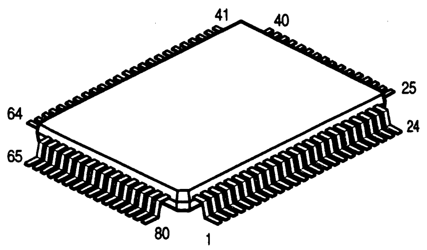
BLOCK DIAGRAM

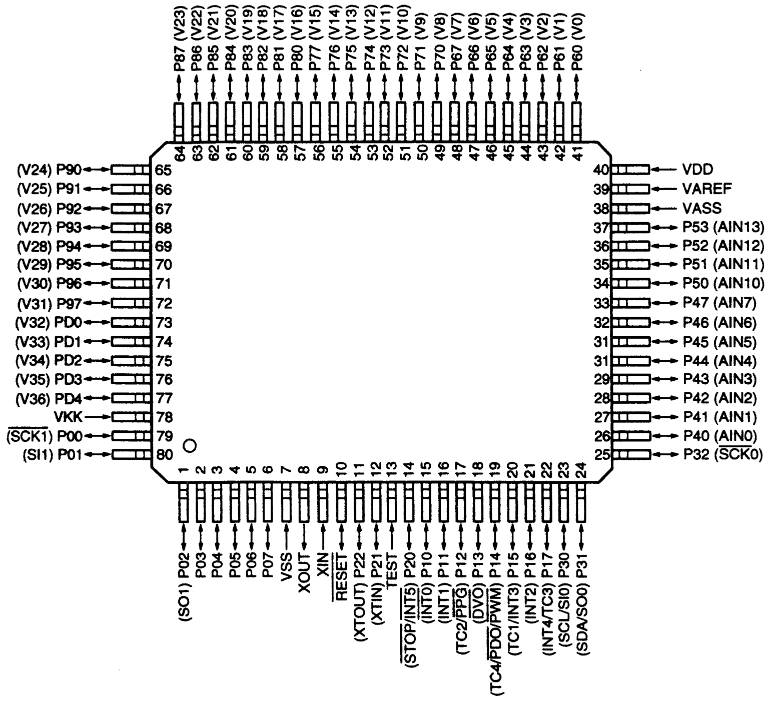

1
2
3
4
5
6
7
8
A
B
C
D
E
AC PLUG
1U-3290-1
POWER SUPPLY UNIT
2P AC INLET
P.SW
POWER TRASFORMER
+12V REGULATOR CIRCUIT
−12V REGULATOR CIRCUIT
POWER MUTE CIRCUIT (KILL)
+5V REGULATOR CIRCUIT
−33V REGULATOR CIRCUIT
FILAMENT DC
DIG IN
DIG OUT
ANALOG
OPTICAL
2
1
OPTICAL
COAXIAL
IN
OUT
L
R
L
R
IC254
IC251
JK251
JK252
IC255
IC253
JK253
JK101
IC105
JK102
1/2
2/2
ANALOG CONTROL 8STEP IC107(L) IC108(R)
IC102
A/D CONVERTOR AD1877
LRCK
BCLK
S OUT
IC255
IC104
IC303
CLKIN
IC109
1/2
2/2
L
R
MUTE CIRCUIT
IC101
MCLK
S DATA
BCLK
L/RLCK
D/A CONVERTOR AD1855
Low Pass FILTER
IC103
CX041 4P-PH
IC110
1/2
2/2
CY301 30PFFC
+12V
−12V
+5V
POWER MUTE (KILL)
CY071 7P-EH
1U-3252-1 IN/OUT UNIT
CY101 10P-PH
CX131 13PFFC
30PFFC
10P-PH
11P-EH
12S
12C
PCS
PAD
FOC
SL
OPU
PHOTO DIODE
LASER
DISC MOTOR
CAHF
CD MECHA
SERBO DRIVER
PCS
TRAY MOTOR
TRY SENSE
MACE2 SAA 7399
ENGINE CONTROLLER
EPROM
EEPROM
BPF
ANALOG SIGNAL PROCESSOR AEGER-2
EFMTIME2 GATE ARRAY
DAC
LASER CONTROL
SPINDLE DRIVER
HF AMP/FILTER
CDR60 SAA 7392 DECODE/ ENCODER
12S
12C
DASP MOTOROLA XCF5244PV
EBU IN/OUT X=1.2.4
BUFFER MANAGEMENT
CD-TEXT/ENCODER
CD-TEXT/DECODER
SAMPLE RATE CONVERSION 96KHz
APPLICATION UP
DRAM BUFFER
FLASH ROM 4Mb
MAIN BOARD UNIT
1U-3252-3 H/P UNIT
H/P JACK
MUTE CIRCUIT
VR401
MUTE
CY041 4P-PH
CY131 13PFFC
1U-3252-2 DISPLAY UNIT
PHOTO MODULE
REMOTE CONTROL
DISPLAY FL TUBE
FL TUBE DRIVER µcom
OPERATION BUTTON
JOG DIAL

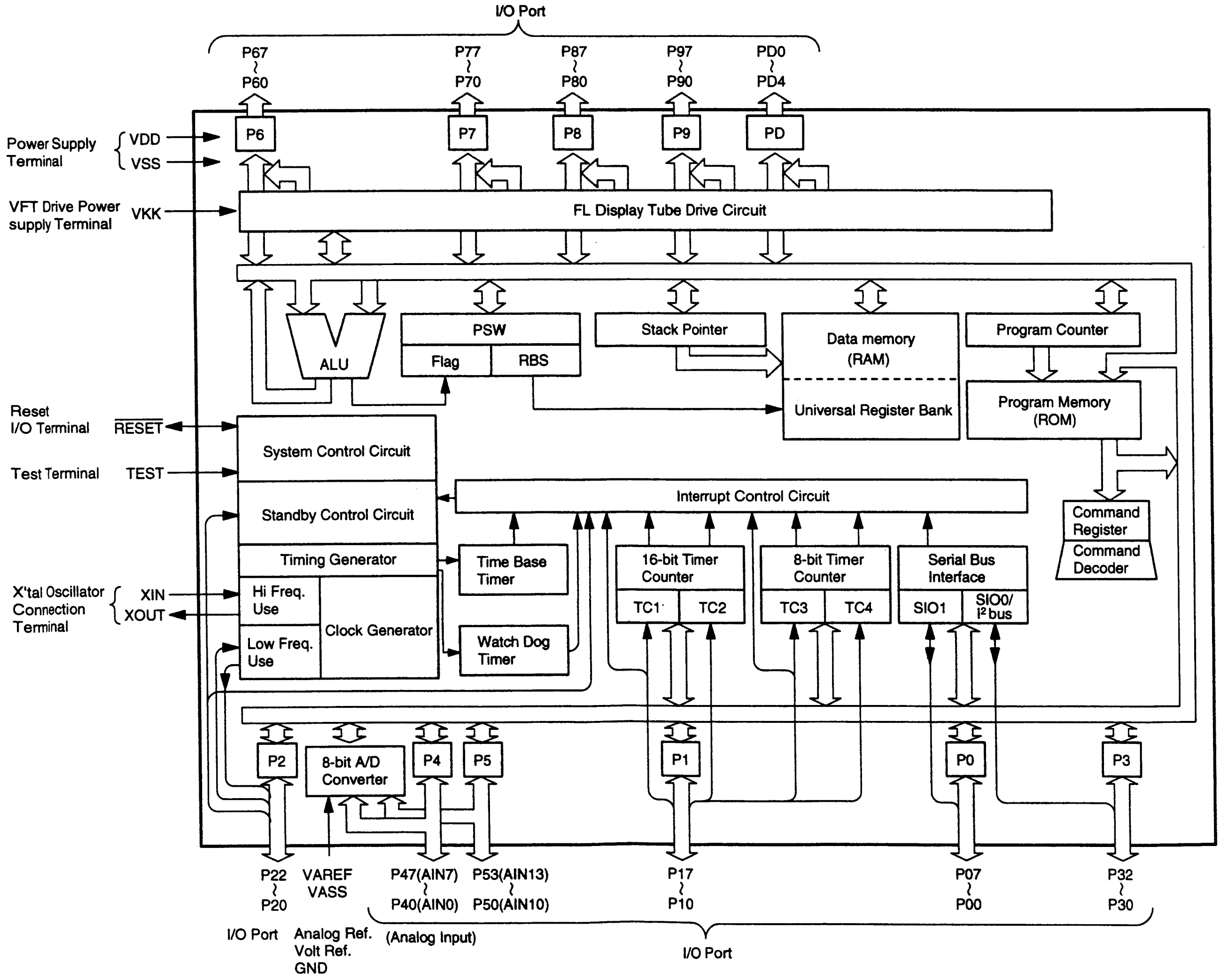
SEMICONDUCTORS

● IC's

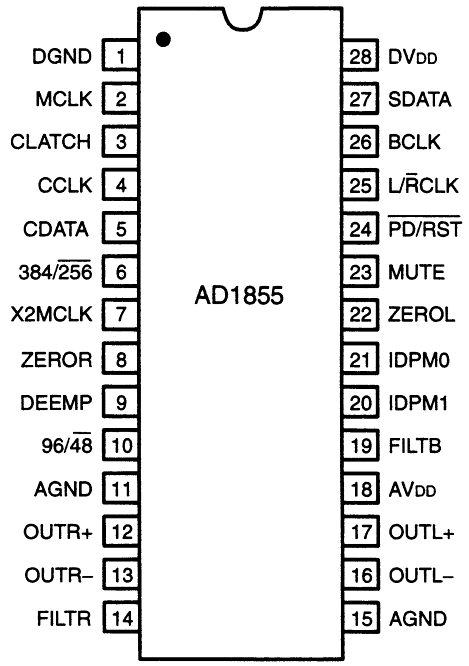
TMP87CH74F6851 (IC301)


41
40
25
24
64
65
80
1


P87 (V23) 64
P86 (V22) 63
P85 (V21) 62
P84 (V20) 61
P83 (V19) 60
P82 (V18) 59
P81 (V17) 58
P80 (V16) 57
P77 (V15) 56
P76 (V14) 55
P75 (V13) 54
P74 (V12) 53
P73 (V11) 52
P72 (V10) 51
P71 (V9) 50
P70 (V8) 49
P67 (V7) 48
P66 (V6) 47
P65 (V5) 46
P64 (V4) 45
P63 (V3) 44
P62 (V2) 43
P61 (V1) 42
P60 (V0) 41
(V24) P90 65
(V25) P91 66
(V26) P92 67
(V27) P93 68
(V28) P94 69
(V29) P95 70
(V30) P96 71
(V31) P97 72
(V32) PD0 73
(V33) PD1 74
(V34) PD2 75
(V35) PD3 76
(V36) PD4 77
VKK 78
(SCK1) P00 79
(SI1) P01 80
40 VDD
39 VAREF
38 VASS
37 P53 (AIN13)
36 P52 (AIN12)
35 P51 (AIN11)
34 P50 (AIN10)
33 P47 (AIN7)
32 P46 (AIN6)
31 P45 (AIN5)
31 P44 (AIN4)
29 P43 (AIN3)
28 P42 (AIN2)
27 P41 (AIN1)
26 P40 (AIN0)
25 P32 (SCK0)
1 (SO1) P02
2 P03
3 P04
4 P05
5 P06
6 P07
7 VSS
8 XOUT
9 XIN
10 RESET
11 (XTOUT) P22
12 (XTIN) P21
13 TEST
14 (STOP/INT5) P20
15 (INT0) P10
16 (INT1) P11
17 (TC2/PPG) P12
18 (DVO) P13
19 (TC4/PDO/PWM) P14
20 (TC1/INT3) P15
21 (INT2) P16
22 (INT4/TC3) P17
23 (SCL/SI0) P30
24 (SDA/SO0) P31

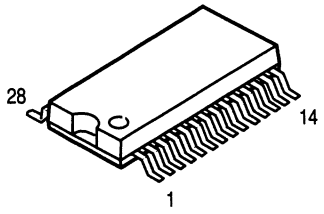

I/O Port
P67 ~ P60
P77 ~ P70
P87 ~ P80
P97 ~ P90
PD0 ~ PD4
P6
P7
P8
P9
PD
Power Supply Terminal
VDD
VSS
VFT Drive Power supply Terminal
VKK
FL Display Tube Drive Circuit
ALU
PSW
Flag
RBS
Stack Pointer
Data memory (RAM)
Universal Register Bank
Program Counter
Program Memory (ROM)
Reset I/O Terminal
RESET
Test Terminal
TEST
System Control Circuit
Standby Control Circuit
Timing Generator
Interrupt Control Circuit
Command Register
Command Decoder
Time Base Timer
16-bit Timer Counter
TC1
TC2
8-bit Timer Counter
TC3
TC4
Serial Bus Interface
SIO1
SIO0/ I²bus
X'tal Oscillator Connection Terminal
XIN
XOUT
Hi Freq. Use
Low Freq. Use
Clock Generator
Watch Dog Timer
P2
8-bit A/D Converter
P4
P5
P1
P0
P3
P22 ~ P20
VAREF
VASS
P47(AIN7) ~ P40(AIN0)
P53(AIN13) ~ P50(AIN10)
P17 ~ P10
P07 ~ P00
P32 ~ P30
I/O Port
Analog Ref. Volt Ref. GND
(Analog Input)
I/O Port

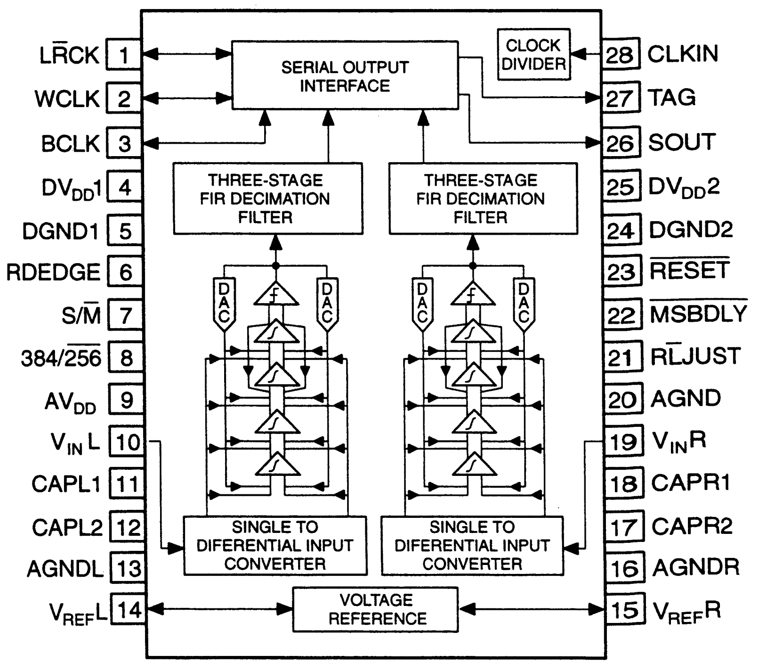
AD1855JRSRL (IC101)


AD1855
DGND 1
MCLK 2
CLATCH 3
CCLK 4
CDATA 5
384/256 6
X2MCLK 7
ZEROR 8
DEEMP 9
96/48 10
AGND 11
OUTR+ 12
OUTR– 13
FILTR 14
28 DVDD
27 SDATA
26 BCLK
25 L/RCLK
24 PD/RST
23 MUTE
22 ZEROL
21 IDPM0
20 IDPM1
19 FILTB
18 AVDD
17 OUTL+
16 OUTL–
15 AGND

Pin No.	Name	I/O	Function
1	DGND	I	Digital Ground
2	MCLK	I	Master Clock Input
3	CLATCH	I	Latch input for control data
4	CCLK	I	Control clock input for control data
5	CDATA	I	Serial control input
6	384/256	I	Selects the master clock mode
7	X2MCLK	I	Selects internal clock doubler (LO) or internal clock=MCLK (HI)
8	ZEROR	O	Right Channel Zero Flag Output
9	DEEMP	I	De-Emphasis
10	96/48	I	Selects 48 kHz (LO) or 96 kHz Sample Frequency Control
11 15	AGND	I	Analog Ground
12	OUTR+	O	Right Channel Positive line level analog output
13	OUTR–	O	Right Channel Negative line level analog output
14	FILTR	O	Voltage Reference Filter Capacitor Connection
16	OUTL–	O	Left Channel Negative line level analog output
17	OUTL+	O	Left Channel Positive line level analog output
18	AVDD	I	Analog Power Supply
19	FILTB	O	Filter Capacitor connection
20	IDPM1	I	Input serial data port mode control one
21	IDPM0	I	Input serial data port mode control zero
22	ZEROL	O	Left Channel Zero Flag output
23	MUTE	I	Mute. Assert HI to mute both stereo analog outputs
24	PD/RST	I	Power-Down/Reset
25	L/RCLK	I	Left/Right clock input for input data
26	BCLK	I	Bit clock input for input data
27	SDATA	I	Serial input
28	DVDD	I	Digital Power Supply

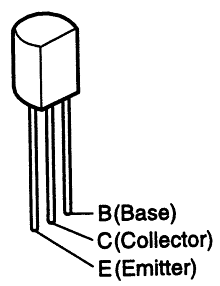
AD1877JRSRL (IC102)



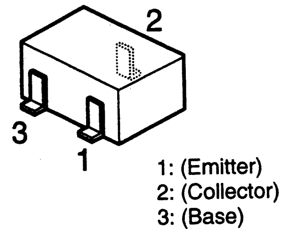

LRCK 1
WCLK 2
BCLK 3
DVDD1 4
DGND1 5
RDEDGE 6
S/M 7
384/256 8
AVDD 9
VIN L 10
CAPL1 11
CAPL2 12
AGNDL 13
VREFL 14
28 CLKIN
27 TAG
26 SOUT
25 DVDD2
24 DGND2
23 RESET
22 MSBDLY
21 RLJUST
20 AGND
19 VIN R
18 CAPR1
17 CAPR2
16 AGNDR
15 VREFR
SERIAL OUTPUT INTERFACE
CLOCK DIVIDER
THREE-STAGE FIR DECIMATION FILTER
THREE-STAGE FIR DECIMATION FILTER
DAC
DAC
DAC
DAC
SINGLE TO DIFERENTIAL INPUT CONVERTER
SINGLE TO DIFERENTIAL INPUT CONVERTER
VOLTAGE REFERENCE

● TRANSISTORS

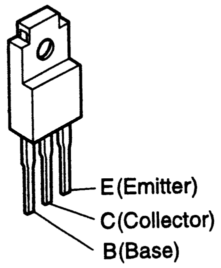
2SC2878 (A/B)


B(Base)
C(Collector)
E(Emitter)

2SA1037K(S/R)
2SC2412K(S)

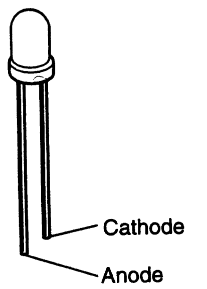

2
3
1
1: (Emitter)
2: (Collector)
3: (Base)

2SB1185(E/F)

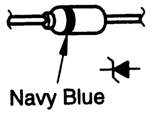

E(Emitter)
C(Collector)
B(Base)

● DIODES (LED Included)

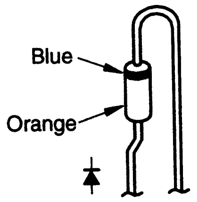
SLR-342VR


Cathode
Anode

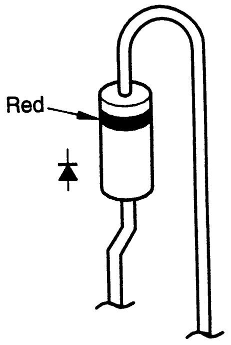
HZS3C-1
HZS4A-1
HZS5C-1
HZS6A-1
HZS33-1



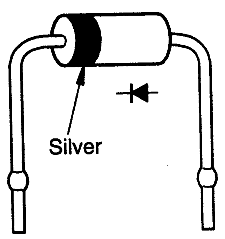
1SR35-200A


Blue
Orange

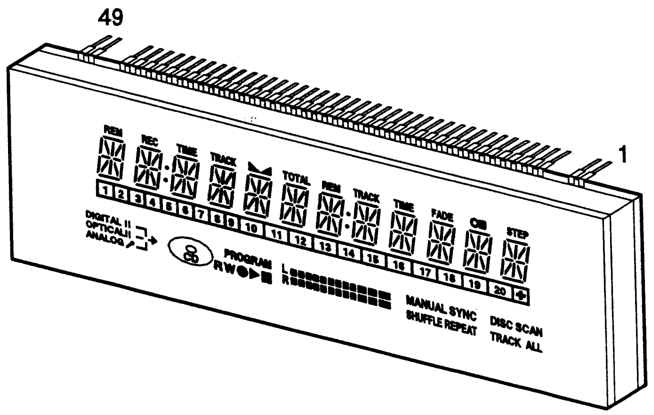
S2L20U



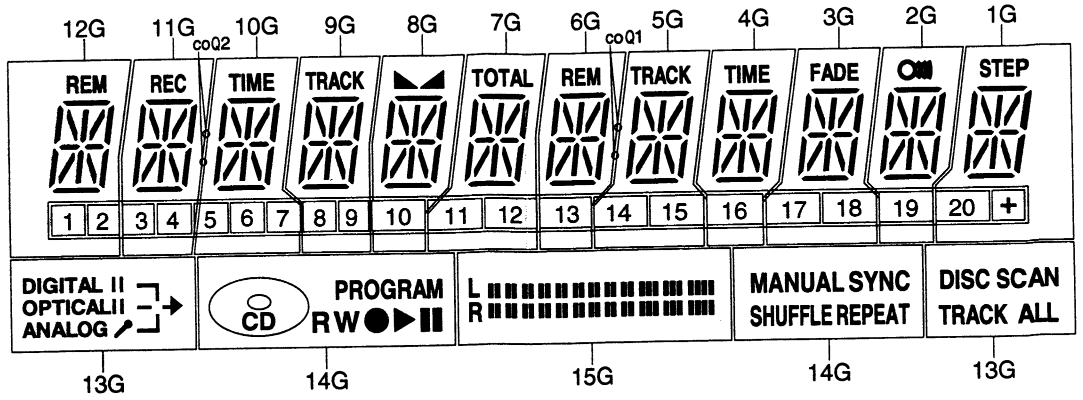
31DQ06

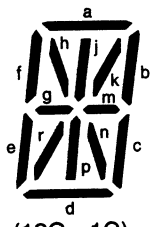


● FL DISPLAY 15-BT-61GNK (FL301)

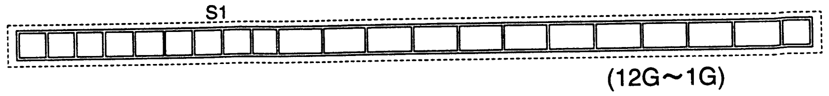


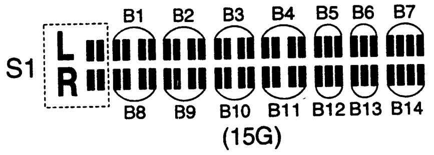
GRID ASSIGNMENT


12G
11G
coQ2
10G
9G
8G
7G
6G
coQ1
5G
4G
3G
2G
1G
REM
REC
TIME
TRACK
TOTAL
REM
TRACK
TIME
FADE
STEP
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
+
DIGITAL II
OPTICAL II
ANALOG
CD
PROGRAM
RW
L
R
MANUAL SYNC
SHUFFLE REPEAT
DISC SCAN
TRACK ALL
13G
14G
15G
14G
13G


a
h
j
k
b
f
g
m
e
r
n
p
c
d

(12G~1G)




B1
B2
B3
B4
B5
B6
B7
S1
L
R
B8
B9
B10
B11
B12
B13
B14

(15G)

ANODE CONNECTION

	15G	14G	13G	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	B14	R	DIGITAL II	a	a	a	a	a	a	a	a	a	a	a	a
P2	B13	W	I (DIGITAL)	j,p	j,p	j,p	j,p	j,p	j,p	j,p	j,p	j,p	j,p	j,p	j,p
P3	B12	PROGRAM	OPTICAL II	h	h	h	h	h	h	h	h	h	h	h	h
P4	B11	CD	I(OPTICAL)	k	k	k	k	k	k	k	k	k	k	k	k
P5	B10	▶	ALL	b	b	b	b	b	b	b	b	b	b	b	b
P6	B9	⏸	TRACK	f	f	f	f	f	f	f	f	f	f	f	f
P7	B8	●	ANALOG	m	m	m	m	m	m	m	m	m	m	m	m
P8	B7	REPEAT	┐	g	g	g	g	g	g	g	g	g	g	g	g
P9	B6	SHUFFLE	━	c	c	c	c	c	c	c	c	c	c	c	c
P10	B5	SYNC	┘	e	e	e	e	e	e	e	e	e	e	e	e
P11	B4	MANUAL	➔	r	r	r	r	r	r	r	r	r	r	r	r
P12	B3	–	SCAN	n	n	n	n	n	n	n	n	n	n	n	n
P13	B2	–	DISC	d	d	d	d	d	d	d	d	d	d	d	d
P14	B1	–	↗	REM	REC	TIME	TRACK	◣◢	TOTAL	REM	TRACK	TIME	FADE	O■	STEP
P15	–	–	–	1	3	5	8	10	11	13	14	16	17	19	20
P16	–	–	–	2	4	6	9	–	12	–	15	–	18	–	+
P17	–	–	–	–	–	7	–	–	–	–	–	–	–	–	–
P18	–	–	–	–	–	–	–	–	–	coQ1		–	–	–	–
P19	–	–	–	–	coQ2		–	–	–	–	–	–	–	–	–
P20	S1	–	–	S1											

PIN CONNECTION

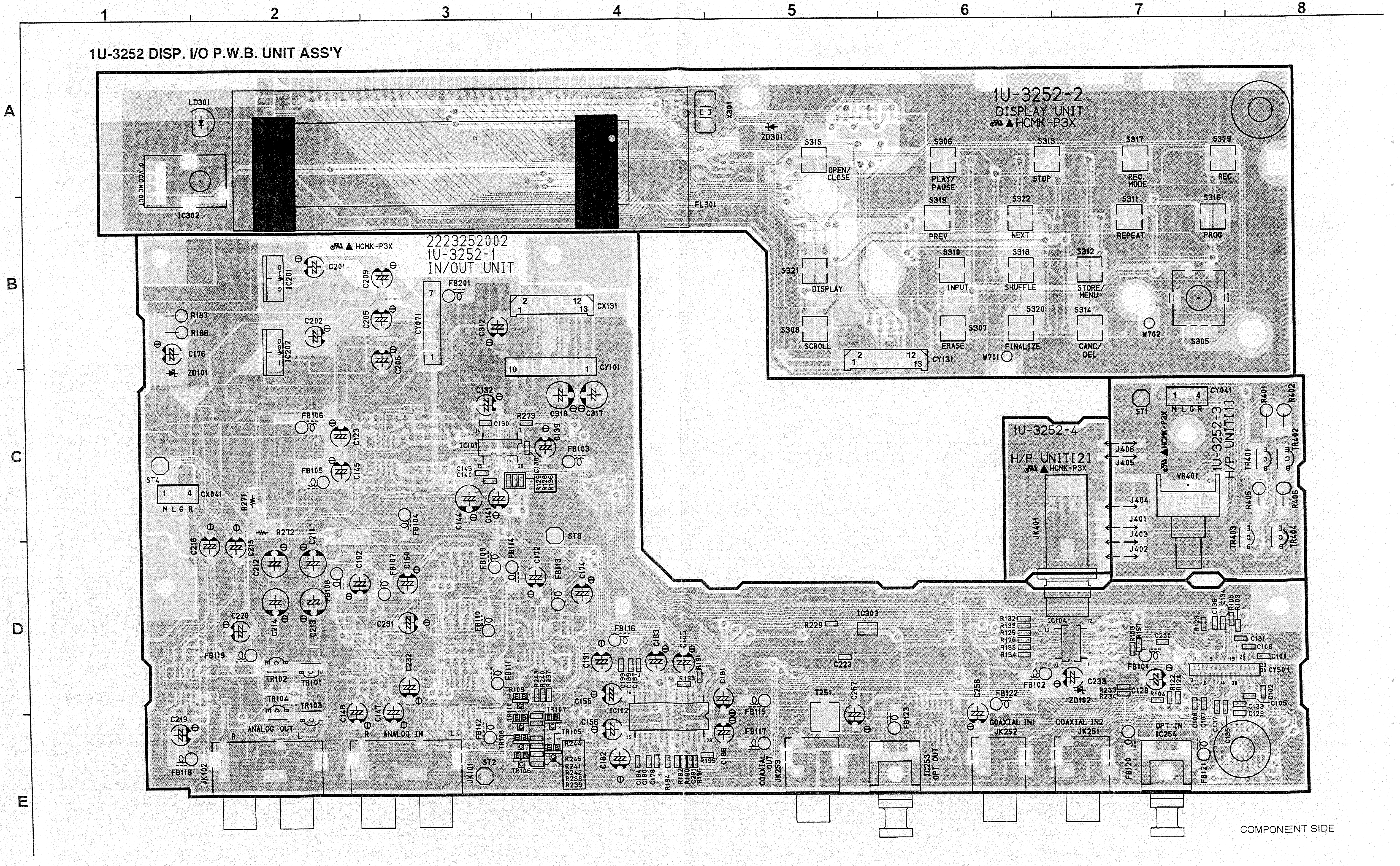
PIN NO.	49	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25
CONNECTION	F+	F+	NP	NP	NC	NC	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	11G	12G	13G	14G	15G	NC	NC	P20	P19

PIN NO.	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
CONNECTION	P18	P17	P16	P15	P14	P13	P12	P11	P10	P9	P8	P7	P6	P5	P4	P3	P2	P1	NC	NC	NP	NP	F–	F–

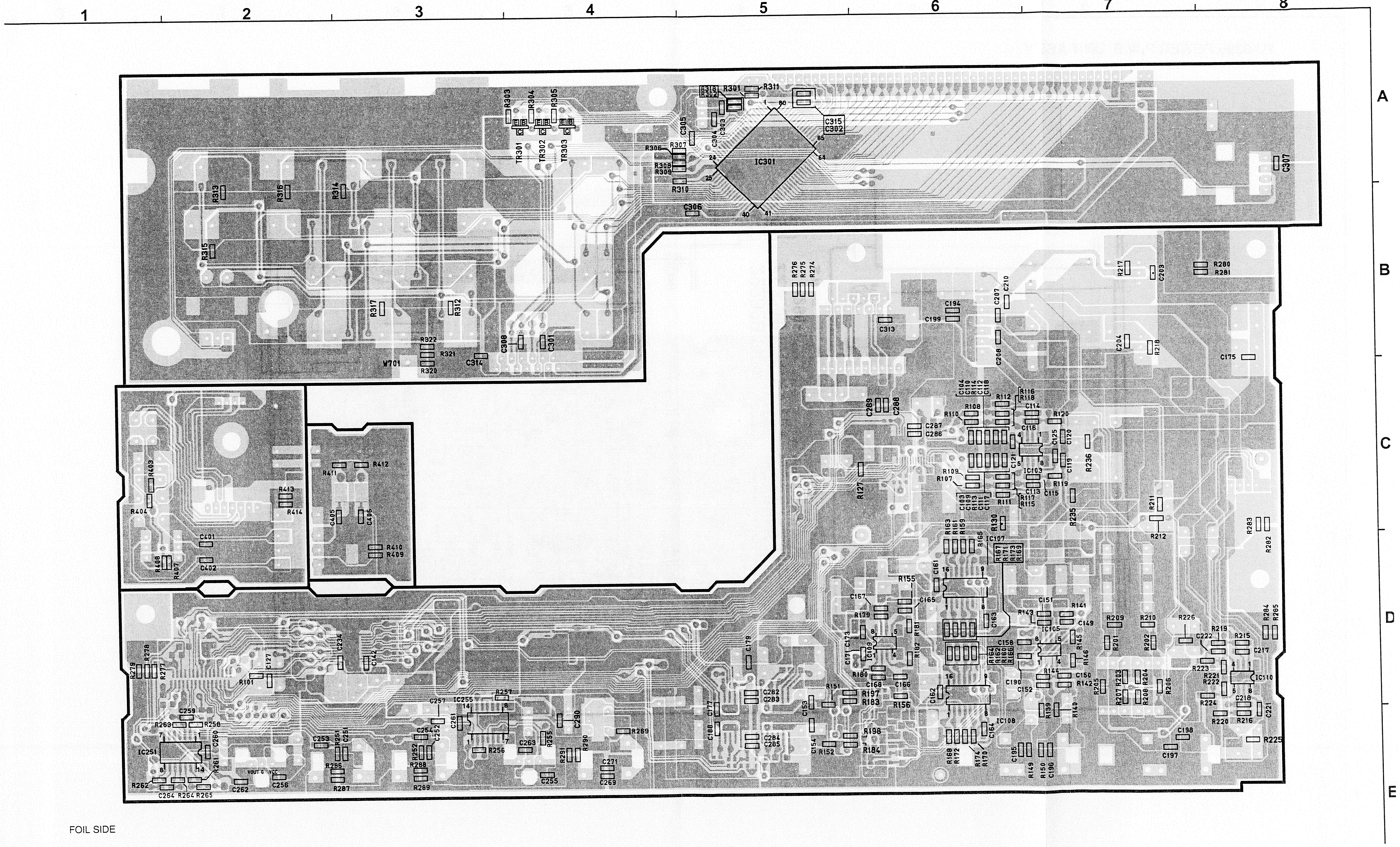
NOTE 1) F+,F– --- Filament
2) NP ----- No pin
3) NC ----- No connection
4) DL ----- Datum Line
5) 1G~5G -- Grid

PRINTED WIRING BOARDS

1U-3252 DISP. I/O P.W.B. UNIT ASS'Y


1
2
3
4
5
6
7
8
A
B
C
D
E
LD301
IC302
100 CC 40-0
X301
ZD301
FL301
1U-3252-2
DISPLAY UNIT
HCMK-P3X
S315
OPEN/
CLOSE
S306
PLAY/
PAUSE
S313
STOP
S317
REC.
MODE
S309
REC.
S319
PREV
S322
NEXT
S311
REPEAT
S316
PROG
S321
DISPLAY
S310
INPUT
S318
SHUFFLE
S312
STORE/
MENU
S308
SCROLL
ERASE
S307
S320
FINALIZE
S314
CANC/
DEL
W702
S305
W701
CY131
2223252002
1U-3252-1
IN/OUT UNIT
HCMK-P3X
IC201
C201
C209
C202
IC202
C205
C206
CY071
FB201
CX131
C312
CY101
R187
R188
C176
ZD101
C132
C130
R273
C318
C317
C139
FB103
IC101
C143
C140
C138
R129
R128
R136
FB106
C123
FB105
C145
ST4
CX041
M L G R
R271
R272
C144
C141
FB104
ST3
C216
C215
C211
C212
C214
C213
FB108
C192
FB107
C160
FB109
FB114
C172
FB113
C174
C220
C231
FB110
FB119
TR102
TR101
TR104
TR103
C232
FB111
TR109
R243
R240
R237
TR110
TR108
TR107
TR105
R244
R245
R241
R242
R238
R239
TR106
C219
FB118
JK102
ANALOG OUT
R
L
C148
C147
ANALOG IN
JK101
ST2
FB112
FB116
C191
C183
C165
C193
C189
C187
C155
IC102
C156
R193
R191
C181
C182
C184
C180
C178
R194
R192
R190
C291
R196
R195
C186
FB115
FB117
COAXIAL OUT
JK253
R229
IC303
C223
T251
C267
FB123
IC253
OPT OUT
1U-3252-4
H/P UNIT[2]
HCMK-P3X
JK401
J406
J405
J404
J401
J403
J402
CY041
ST1
1U-3252-3
H/P UNIT[1]
VR401
R401
R402
TR401
TR402
R405
R406
TR403
TR404
R132
R133
R125
R126
R135
R134
IC104
R158
R157
C200
FB101
FB102
C233
ZD102
R233
R234
C128
R104
R122
R124
R123
C136
C134
R105
R103
C131
C106
C101
CY301
C102
C105
C133
C129
C258
FB122
COAXIAL IN1
JK252
COAXIAL IN2
JK251
FB120
OPT IN
IC254
FB121
C108
C107
C137
C135

COMPONENT SIDE


1
2
3
4
5
6
7
8
A
B
C
D
E
IC301
TR301
TR302
TR303
R301
R302
R303
R304
R305
R306
R307
R308
R309
R310
R311
R312
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IC103
IC105
IC106
IC108
IC109
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IC251
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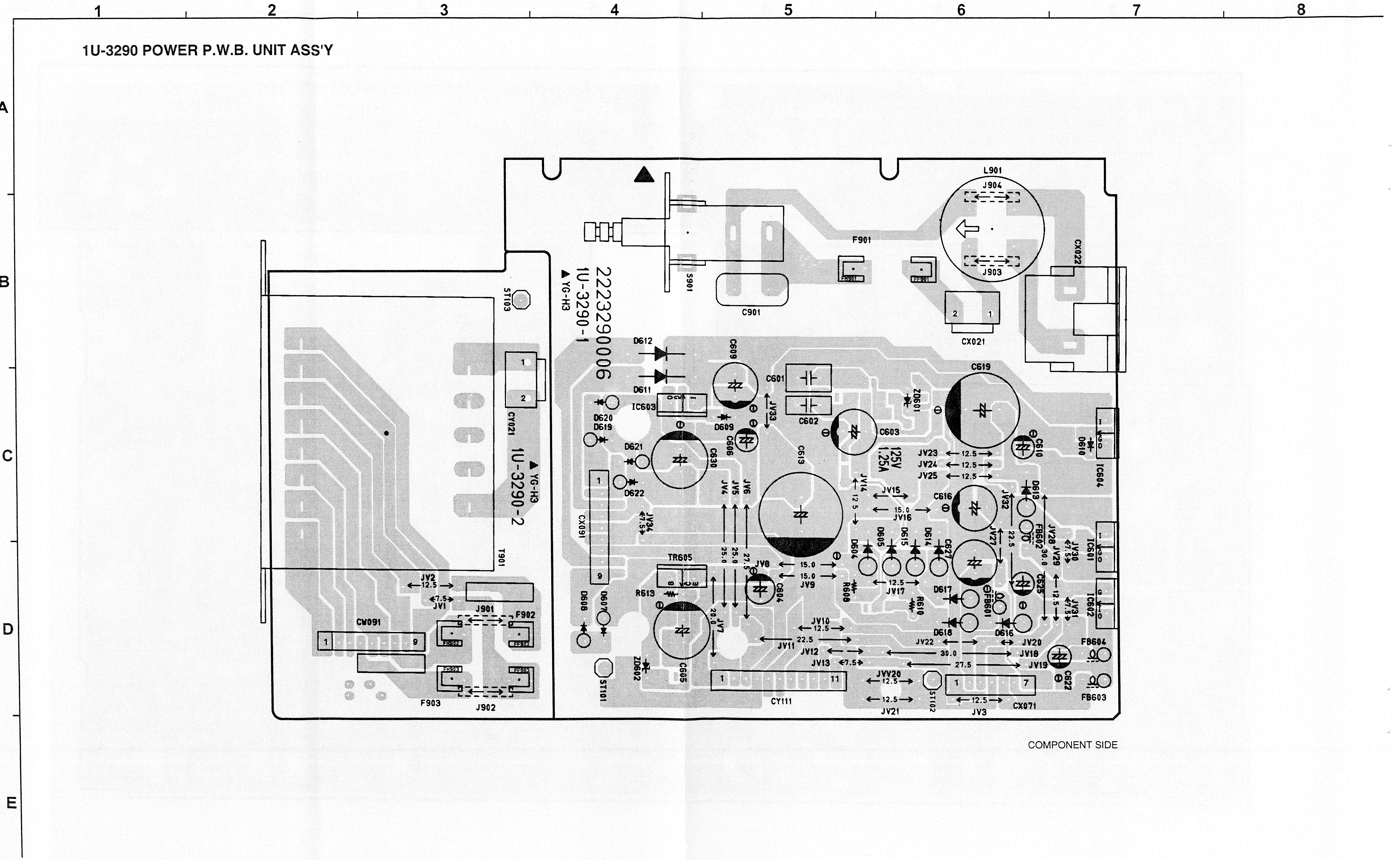
FOIL SIDE

1U-3290 POWER P.W.B. UNIT ASS'Y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JV24 12.5
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JV4 25.0
JV5 25.0
JV6 27.5
JV14 12.5
JV15
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C616
JV32
D613
FB602
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JV29
JV30 7.5
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TR605
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JV9 15.0
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F902
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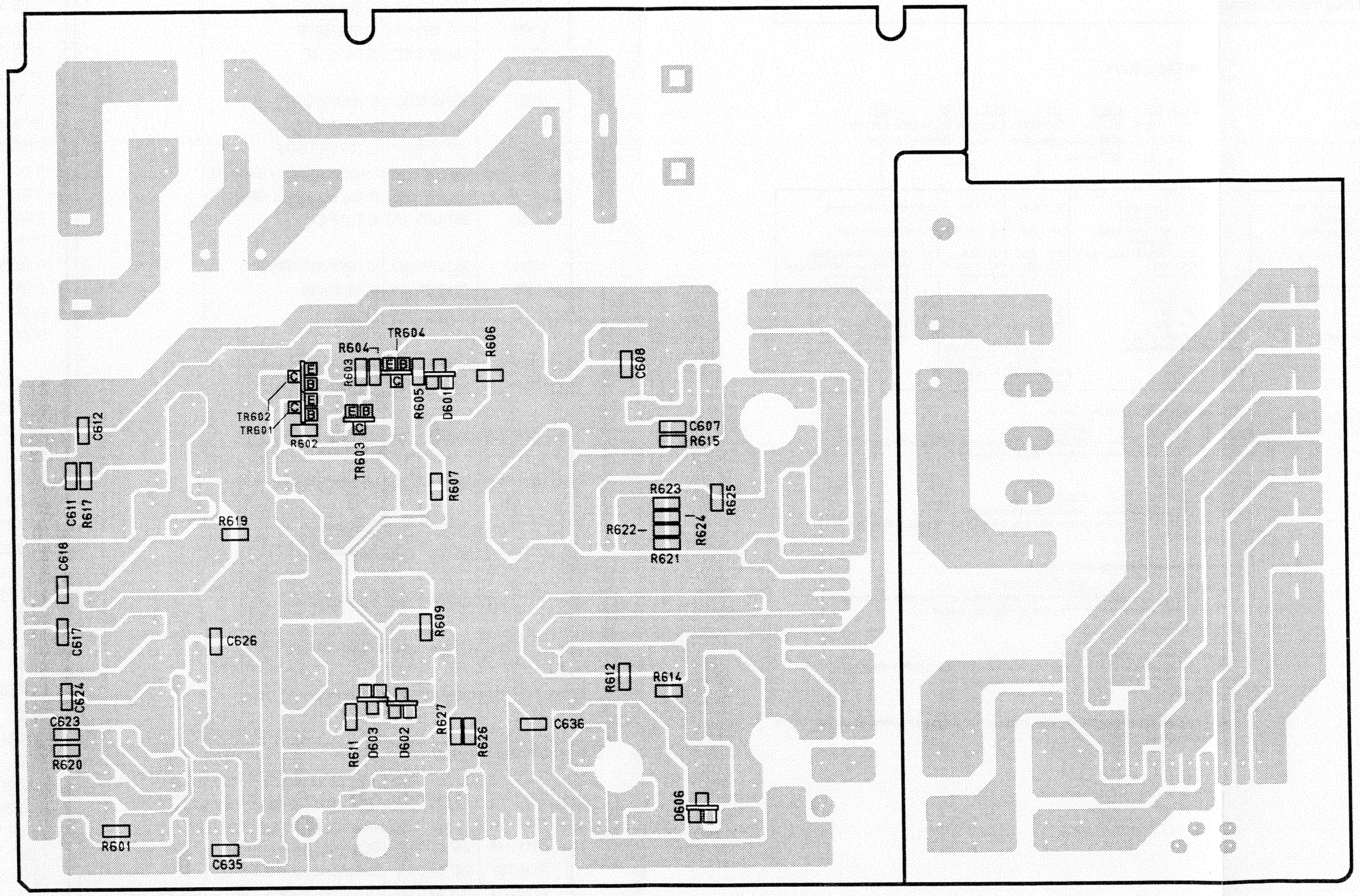
J902

COMPONENT SIDE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D603
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FOIL SIDE

NOTE FOR PARTS LIST

- Part indicated with the mark "⊙" are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.
- When ordering of part, clearly indicate "1" and "I" (i) to avoid mis-supplying.
- Ordering part without stating its part number can not be supplied.
- Part indicated with the mark "★" is not illustrated in the exploded view.
- Not including Carbon Film ±5%, 1/4W Type in the P.W.Board parts list. (Refer to the Schematic Diagram for those parts.)

WARNING:
Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

● Resistors

Ex.:	RN	14K	2E	182	G	FR
	Type	Shape and performance	Power	Resistance	Allowable error	Others

Type	Power	Allowable error	Others
RD : Carbon RC : Composition RS : Metal oxide film RW : Winding RN : Metal film RK : Metal mixture	2B : 1/8W 2E : 1/4W 2H : 1/2W 3A : 1W 3D : 2W 3F : 3W 3H : 5W	F : ±1% G : ±2% J : ±5% K : ±10% M : ±20%	P : Pulse-resistant type NL : Low noise type NB : Non-burning type FR : Fuse-resistor F : Lead wire forming

*** Resistance**

1 8 2 ⇒ 1800 ohm = 1.8 kohm
2 — Indicates number of zeros after effective number.
1 8 — 2-digit effective number.

- Units: ohm

1 R 2 ⇒ 1.2 ohm
2 — 1-digit effective number.
1 R — 2-digit effective number, decimal point indicated by R.

- Units: ohm

● Capacitors

Ex.:	CE	04W	1H	2R2	M	BP
	Type	Shape and performance	Dielectric strength	Capacity	Allowable error	Others

Type	Dielectric strength	Allowable error	Others
CE : Aluminum foil electrolytic CA : Aluminum solid electrolytic CS : Tantalum electrolytic CQ : Film CK : Ceramic CC : Ceramic CP : Oil CM : Mica CF : Metallized CH : Metallized	0J : 6.3V 1A : 10V 1C : 16V 1E : 25V 1V : 35V 1H : 50V 2A : 100V 2B : 125V 2C : 160V 2D : 200V 2E : 250V 2H : 500V 2J : 630V	F : ±1% G : ±2% J : ±5% K : ±10% M : ±20% Z : +80% −20% P : +100% −0% C : ±0.25pF D : ±0.5pF = : Others	HS : High stability type BP : Non-polar type HR : Ripple-resistant type DL : For change and discharge HF : For assuring high frequency U : UL part C : CSA part W : UL-CSA type F : Lead wire forming

*** Capacity (electrolyte only)**

2 2 2 ⇒ 2200mF
2 — Indicates number of zeros after effective number.
2 2 — 2-digit effective number.

- Units: mF.

2 R 2 ⇒ 2.2mF
2 — 1-digit effective number.
2 R — 2-digit effective number, decimal point indicated by R.

- Units: mF.

*** Capacity (except electrolyte)**

2 2 2 ⇒ 2200pF=0.0022mF
2 — (More than 2) — Indicates number of zeros after effective number.
2 2 — 2-digit effective number.

- Units: mF.

2 2 1 ⇒ 220pF
1 — (0 or 1) — Indicates number of zeros after effective number.
2 2 — 2-digit effective number.

- Units: pF.

- When the dielectric strength is indicated in AC, "AC" is included after the dieelectric strength value.

PARTS LIST OF P.W.B. UNIT

1U-3252 DISP. I/O. P.W.B. UNIT ASS'Y

Note : The symbols in the column "Remarks" indicate the following destinations.
E3: U.S.A./Canada model
E2: Europe model

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP			
IC101	262 2674 906	IC AD1855JRSRL	
IC102	262 2720 902	IC AD1877JRSRL	
IC103	263 1074 908	IC OP275GSR	
IC104	262 2797 906	IC TC74LVXC3245FS	
IC105	263 1074 908	IC OP275GSR	
IC107,108	262 2721 901	IC TC74HC4051AF	
IC109	263 1074 908	IC OP275GSR	
IC110	263 0615 902	IC BA15218F	
IC201	263 0518 009	IC NJM79M09FA	
IC202	263 0816 002	IC NJM78M09FA (S)	
IC251	262 1205 907	IC TC74HCU04AF	
IC253	269 0098 006	Optical digital output (GP1F32T)	
IC254	269 0172 003	Optical digital input (GP1F37R)	
IC255	262 1205 907	IC TC74HCU04AF	
IC301	262 2727 002	IC TMP87CH74F6851	
IC302	269 0180 008	IC TSOP1736	
IC303	262 1738 908	IC TC7SU04F	
TR101~104	273 0253 918	Transistor 2SC2878 (A/B)	
TR105~110	273 0384 900	Transistor 2SC2412K (S)	
TR301~303	273 0384 900	Transistor 2SC2412K (S)	
TR403,404	273 0253 918	Transistor 2SC2878 (A/B)	
ZD101	276 0460 904	Zener diode HZS5C-1	
ZD102	276 0455 906	Zener diode HZS4A-1	
ZD301	276 0454 907	Zener diode HZS3C-1	
LD301	393 9539 908	LED SLR-342VRTF7LM	
FL301	393 8045 008	FLT (15-BT-61GNK)	
RESISTORS GROUP			
R101	247 2009 983	Carbon chip 10kohm 1/16W	RM73B--103J
R103~105	247 2009 983	Carbon chip 10kohm 1/16W	RM73B--103J
R107~110	247 0029 907	Carbon chip 1.8kohm 1/10W	RM73B--182J (AD)
R111~118	247 0029 910	Carbon chip 2kohm 1/10W	RM73B--202J (AD)
R119,120	247 0040 902	Carbon chip 0ohm 1/10W	RM73B--0R0K (ATD)
R122~124	247 2009 983	Carbon chip 10kohm 1/16W	RM73B--103J
R125	247 2004 920	Carbon chip 47ohm 1/16W	RM73B--470J
R126	247 2005 987	Carbon chip 220ohm 1/16W	RM73B--221J
R128,129	247 2009 983	Carbon chip 10kohm 1/16W	RM73B--103J
R132~135	247 2004 920	Carbon chip 47ohm 1/16W	RM73B--470J
R136	247 2018 903	Carbon chip 0ohm 1/16W	RM73B--0R0K
R141~144	247 0033 922	Carbon chip 100kohm 1/10W	RM73B--104J (AD)
R145,146	247 0030 983	Carbon chip 10kohm 1/10W	RM73B--103J (AD)
R149,150	247 0033 922	Carbon chip 100kohm 1/10W	RM73B--104J (AD)
R151,152	247 0027 912	Carbon chip 300ohm 1/10W	RM73B--301J (AD)
R155,156	247 0030 954	Carbon chip 7.5kohm 1/10W	RM73B--752J (AD)
R158	247 2009 983	Carbon chip 10kohm 1/16W	RM73B--103J
R159,160	247 0032 994	Carbon chip 75kohm 1/10W	RM73B--753J (AD)
R161,162	247 0032 952	Carbon chip 51kohm 1/10W	RM73B--513J (AD)
R163,164	247 0032 910	Carbon chip 36kohm 1/10W	RM73B--363J (AD)
R165,166	247 0031 966	Carbon chip 22kohm 1/10W	RM73B--223J (AD)
R167,168	247 0031 911	Carbon chip 13kohm 1/10W	RM73B--133J (AD)
R169,170	247 0030 954	Carbon chip 7.5kohm 1/10W	RM73B--752J (AD)
R171,172	247 0029 952	Carbon chip 3kohm 1/10W	RM73B--302J (AD)
R173,174	247 0040 902	Carbon chip 0ohm 1/10W	RM73B--0R0K (ATD)
R179,180	247 0031 924	Carbon chip 15kohm 1/10W	RM73B--153J (AD)
R181,182	247 0030 983	Carbon chip 10kohm 1/10W	RM73B--103J (AD)
R183	247 0040 902	Carbon chip 0ohm 1/10W	RM73B--0R0K (ATD)
R187,188	241 2379 903	Carbon film 470ohm 1/4W (NB)	RD14B2E471JNBS
R190	247 2018 903	Carbon chip 0ohm 1/16W	RM73B--0R0K
R191	247 2009 909	Carbon chip 4.7kohm 1/16W	RM73B--472J
R193,194	247 2009 909	Carbon chip 4.7kohm 1/16W	RM73B--472J
R195	247 2018 903	Carbon chip 0ohm 1/16W	RM73B--0R0K
R196	247 2004 920	Carbon chip 47ohm 1/16W	RM73B--470J
R198	247 0040 902	Carbon chip 0ohm 1/10W	RM73B--0R0K (ATD)
R201,202	247 0027 925	Carbon chip 330ohm 1/10W	RM73B--331J (AD)
R203,204	247 2008 926	Carbon chip 2.2kohm 1/16W	RM73B--222J
R205,206	247 0027 925	Carbon chip 330ohm 1/10W	RM73B--331J (AD)
R207,208	247 2008 926	Carbon chip 2.2kohm 1/16W	RM73B--222J
R209,210	247 0033 922	Carbon chip 100kohm 1/10W	RM73B--104J (AD)
R211,212	247 2018 903	Carbon chip 0ohm 1/16W	RM73B--0R0K
R215,216	247 0032 952	Carbon chip 51kohm 1/10W	RM73B--513J (AD)
R219,220	247 0029 981	Carbon chip 3.9kohm 1/10W	RM73B--392J (AD)
R221,222	247 0029 994	Carbon chip 4.3kohm 1/10W	RM73B--432J (AD)
R223,224	247 0031 995	Carbon chip 30kohm 1/10W	RM73B--303J (AD)
R229	247 2004 920	Carbon chip 47ohm 1/16W	RM73B--470J
R233,234	247 2007 969	Carbon chip 1.2kohm 1/16W	RM73B--122J
R237	247 2009 983	Carbon chip 10kohm 1/16W	RM73B--103J
R238,239	247 2011 942	Carbon chip 47kohm 1/16W	RM73B--473J
R240	247 2009 983	Carbon chip 10kohm 1/16W	RM73B--103J
R241,242	247 2011 942	Carbon chip 47kohm 1/16W	RM73B--473J
R243	247 2009 983	Carbon chip 10kohm 1/16W	RM73B--103J
R244,245	247 2011 942	Carbon chip 47kohm 1/16W	RM73B--473J
R251,252	247 2004 975	Carbon chip 75ohm 1/16W	RM73B--750J
R255	247 2005 903	Carbon chip 100ohm 1/16W	RM73B--101J
R256	247 2006 960	Carbon chip 470ohm 1/16W	RM73B--471J
R257	247 2014 965	Carbon chip 1Mohm 1/16W	RM73B--105J
R258	247 2008 968	Carbon chip 3.3kohm 1/16W	RM73B--332J
R261	247 2011 942	Carbon chip 47kohm 1/16W	RM73B--473J
R262~264	247 2008 968	Carbon chip 3.3kohm 1/16W	RM73B--332J
R265	247 2005 903	Carbon chip 100ohm 1/16W	RM73B--101J
R269	247 2004 975	Carbon chip 75ohm 1/16W	RM73B--750J
R273	247 2018 903	Carbon chip 0ohm 1/16W	RM73B--0R0K
R274~291	247 0040 902	Carbon chip 0ohm 1/10W	RM73B--0R0K (ATD)

Ref. No.	Part No.	Part Name	Remarks
R301	247 2006 986	Carbon chip 560ohm 1/16W	RM73B--561J
R303~305	247 2012 909	Carbon chip 82kohm 1/16W	RM73B--823J
R306,307	247 2009 983	Carbon chip 10kohm 1/16W	RM73B--103J
R308,309	247 2005 903	Carbon chip 100ohm 1/16W	RM73B--101J
R310	247 2009 909	Carbon chip 4.7kohm 1/16W	RM73B--472J
R311	247 2008 968	Carbon chip 3.3kohm 1/16W	RM73B--332J
R312~317	247 2009 909	Carbon chip 4.7kohm 1/16W	RM73B--472J
R318	247 2005 903	Carbon chip 100ohm 1/16W	RM73B--101J
R320~322	247 0040 902	Carbon chip 0ohm 1/10W	RM73B--0R0K (ATD)
R401,402	241 2387 908	Carbon film 1ohm 1/4W (NB)	RD14B2E010JNBS
R405,406	241 2376 980	Carbon film 56ohm 1/4W (NB)	RD14B2E560JNBS
R407,408	247 2008 926	Carbon chip 2.2kohm 1/16W	RM73B--222J
R409~414	247 0040 902	Carbon chip 0ohm 1/10W	RM73B--0R0K (ATD)
VR401	211 0903 008	Variable resistor 2kohm	V1420Q15FC202
CAPACITORS GROUP			
C101,102	257 0004 961	Ceramic chip 100pF/50V	CC73SL1H101J
C103,104	257 0008 983	Ceramic chip 1000pF/50V	CK73B1H102K
C105~108	257 0004 961	Ceramic chip 100pF/50V	CC73SL1H101J
C109,110	257 0008 983	Ceramic chip 1000pF/50V	CK73B1H102K
C111~114	257 0008 909	Ceramic chip 220pF/50V	CK73B1H221K
C115~118	257 0004 929	Ceramic chip 68pF/50V	CC73SL1H680J
C121	257 0014 935	Ceramic chip 0.1µF/25V	CK73F1E104Z
C123	254 4538 939	Electrolytic 47µF/16V	CE04W1C470M (SMG/RE3)
C125	257 0014 935	Ceramic chip 0.1µF/25V	CK73F1E104Z
C127	257 0014 935	Ceramic chip 0.1µF/25V	CK73F1E104Z
C128	254 4538 939	Electrolytic 47µF/16V	CE04W1C470M (SMG/RE3)
C129	257 0004 961	Ceramic chip 100pF/50V	CC73SL1H101J
C130	257 0014 935	Ceramic chip 0.1µF/25V	CK73F1E104Z
C131	257 0004 961	Ceramic chip 100pF/50V	CC73SL1H101J
C132	254 4538 900	Electrolytic 10µF/16V	CE04W1C100M (SMG/RE3)
C133~137	257 0004 961	Ceramic chip 100pF/50V	CC73SL1H101J
C138	257 0014 935	Ceramic chip 0.1µF/25V	CK73F1E104Z
C139	254 4538 939	Electrolytic 47µF/16V	CE04W1C470M (SMG/RE3)
C140	257 0014 935	Ceramic chip 0.1µF/25V	CK73F1E104Z
C141	254 4538 900	Electrolytic 10µF/16V	CE04W1C100M (SMG/RE3)
C142,143	257 0014 935	Ceramic chip 0.1µF/25V	CK73F1E104Z
C144	254 4538 942	Electrolytic 100µF/16V	CE04W1C101M (SMG/RE3)
C145	254 4538 939	Electrolytic 47µF/16V	CE04W1C470M (SMG/RE3)
C147,148	254 4538 900	Electrolytic 10µF/16V	CE04W1C100M (SMG/RE3)
C149~152	257 0002 921	Ceramic chip 10 pF/50V	CC73SL1H100D
C153,154	257 0009 924	Ceramic chip 2200pF/50V	CK73B1H222K
C155,156	254 4524 943	Electrolytic 1µF/50V	CE04W1H010M (SMG/RE3)
C158	257 0012 982	Ceramic chip 0.022µF/50V	CK73F1H223Z
C160	254 4538 939	Electrolytic 47µF/16V	CE04W1C470M (SMG/RE3)
C161~164	257 0012 982	Ceramic chip 0.022µF/50V	CK73F1H223Z
C165,166	257 0004 961	Ceramic chip 100pF/50V	CC73SL1H101J
C167,168	257 0002 921	Ceramic chip 10 pF/50V	CC73SL1H100D
C171	257 0012 982	Ceramic chip 0.022µF/50V	CK73F1H223Z
C172	254 4538 939	Electrolytic 47µF/16V	CE04W1C470M (SMG/RE3)

Ref. No.	Part No.	Part Name	Remarks
C173	257 0012 982	Ceramic chip 0.022µF/50V	CK73F1H223Z
C174	254 4538 939	Electrolytic 47µF/16V	CE04W1C470M (SMG/RE3)
C175	257 0012 982	Ceramic chip 0.022µF/50V	CK73F1H223Z
C176	254 4538 939	Electrolytic 47µF/16V	CE04W1C470M (SMG/RE3)
C177	257 0010 900	Ceramic chip 0.01µF/50V	CK73B1H103K
C178	257 0008 941	Ceramic chip 470pF/50V	CK73B1H471K
C179	257 0014 935	Ceramic chip 0.1µF/25V	CK73F1E104Z
C180	257 0008 941	Ceramic chip 470pF/50V	CK73B1H471K
C181,182	254 4522 903	Electrolytic 4.7µF/35V	CE04W1V4R7M (SMG/RE3)
C183	254 4538 939	Electrolytic 47µF/16V	CE04W1C470M (SMG/RE3)
C184	257 0014 935	Ceramic chip 0.1µF/25V	CK73F1E104Z
C185,186	254 4522 903	Electrolytic 4.7µF/35V	CE04W1V4R7M (SMG/RE3)
C187	257 0008 941	Ceramic chip 470pF/50V	CK73B1H471K
C188	257 0010 900	Ceramic chip 0.01µF/50V	CK73B1H103K
C189	257 0008 941	Ceramic chip 470pF/50V	CK73B1H471K
C190	257 0012 982	Ceramic chip 0.022µF/50V	CK73F1H223Z
C191	254 4522 903	Electrolytic 4.7µF/35V	CE04W1V4R7M (SMG/RE3)
C192	254 4538 939	Electrolytic 47µF/16V	CE04W1C470M (SMG/RE3)
C193	257 0014 935	Ceramic chip 0.1µF/25V	CK73F1E104Z
C194	257 0010 900	Ceramic chip 0.01µF/50V	CK73B1H103K
C195~198	257 0003 946	Ceramic chip 33pF/50V	CC73SL1H330J
C199	257 0014 935	Ceramic chip 0.1µF/25V	CK73F1E104Z
C200	257 0512 903	Ceramic chip 0.1µF/25V	CK73F1E104Z
C201,202	254 4538 939	Electrolytic 47µF/16V	CE04W1C470M (SMG/RE3)
C203,204	257 0014 935	Ceramic chip 0.1µF/25V	CK73F1E104Z
C205	254 4538 942	Electrolytic 100µF/16V	CE04W1C101M (SMG/RE3)
C206	254 4522 903	Electrolytic 4.7µF/35V	CE04W1V4R7M (SMG/RE3)
C207,208	257 0014 935	Ceramic chip 0.1µF/25V	CK73F1E104Z
C209	254 4522 903	Electrolytic 4.7µF/35V	CE04W1V4R7M (SMG/RE3)
C210	257 0014 935	Ceramic chip 0.1µF/25V	CK73F1E104Z
C211~214	254 4368 934	Electrolytic 100µF/25V	CE04W1E101M (ASF)
C215,216	254 4533 921	Electrolytic 100µF/6.3V	CE04W0J101M (SMG/RE3)
C217,218	257 0004 903	Ceramic chip 56pF/50V	CC73SL1H560J
C219,220	254 4538 942	Electrolytic 100µF/16V	CE04W1C101M (SMG/RE3)
C221,222	257 0010 900	Ceramic chip 0.01µF/50V	CK73B1H103K
C223	257 0512 903	Ceramic chip 0.1µF/25V	CK73F1E104Z
C231~233	254 4538 900	Electrolytic 10µF/16V	CE04W1C100M (SMG/RE3)
C234	257 0014 935	Ceramic chip 0.1µF/25V	CK73F1E104Z
C251,252	257 0005 902	Ceramic chip 150pF/50V	CC73SL1H151J
C253,254	257 0012 982	Ceramic chip 0.022µF/50V	CK73F1H223Z
C255	257 0003 946	Ceramic chip 33pF/50V	CC73SL1H330J
C256,257	257 0012 982	Ceramic chip 0.022µF/50V	CK73F1H223Z
C258	254 4538 900	Electrolytic 10µF/16V	CE04W1C100M (SMG/RE3)
C259,260	257 0012 982	Ceramic chip 0.022µF/50V	CK73F1H223Z
C261	257 0014 935	Ceramic chip 0.1µF/25V	CK73F1E104Z
C262	257 0010 900	Ceramic chip 0.01µF/50V	CK73B1H103K
C263	257 0014 935	Ceramic chip 0.1µF/25V	CK73F1E104Z
C264	257 0012 982	Ceramic chip 0.022µF/50V	CK73F1H223Z
C267	254 4538 926	Electrolytic 33µF/16V	CE04W1C330M (SMG/RE3)
C269	257 0014 935	Ceramic chip 0.1µF/25V	CK73F1E104Z
C271	257 0014 935	Ceramic chip 0.1µF/25V	CK73F1E104Z

Ref. No.	Part No.	Part Name	Remarks
C282	257 0014 935	Ceramic chip 0.1µF/25V	CK73F1E104Z
C283,284	257 0010 900	Ceramic chip 0.01µF/50V	CK73B1H103K
C285	257 0014 935	Ceramic chip 0.1µF/25V	CK73F1E104Z
C286	257 0010 900	Ceramic chip 0.01µF/50V	CK73B1H103K
C287	257 0014 935	Ceramic chip 0.1µF/25V	CK73F1E104Z
C288	257 0010 900	Ceramic chip 0.01µF/50V	CK73B1H103K
C289,290	257 0014 935	Ceramic chip 0.1µF/25V	CK73F1E104Z
C291	257 0512 903	Ceramic chip 0.1µF/25V	CK73F1E104Z
C301	257 0003 904	Ceramic chip 22pF/50V	CC73SL1H220J
C302	257 0013 907	Ceramic chip 0.047µF/50V	CK73F1H473Z
C305	257 0012 982	Ceramic chip 0.022µF/50V	CK73F1H223Z
C306,307	257 0014 935	Ceramic chip 0.1µF/25V	CK73F1E104Z
C308	257 0003 904	Ceramic chip 22pF/50V	CC73SL1H220J
C312	254 4538 942	Electrolytic 100µF/16V	CE04W1C101M (SMG/RE3)
C313,314	257 0014 935	Ceramic chip 0.1µF/25V	CK73F1E104Z
C315	257 0013 907	Ceramic chip 0.047µF/50V	CK73F1H473Z
C317,318	254 4525 913	Electrolytic 47µF/50V	CE04W1H470M (SMG/RE3)
C405,406	257 0010 900	Ceramic chip 0.01µF/50V	CK73B1H103K

Ref. No.	Part No.	Part Name	Remarks	Q'ty
OTHER PARTS GROUP				
CX041	205 0343 045	4P connector base (KR-PH)		1
CX131	205 0668 063	13P FFC connector base		1
CY041	205 0343 045	4P connector base (KR-PH)		1
CY071	205 0233 074	7P EH connector base		1
CY101	205 0375 000	10P connector base (KR-PH)		1
CY131	205 0668 063	13P FFC connector base		1
CY301	205 1139 902	30P FFC connector base		1
FB101~123	235 0049 900	Beads inductor		23
FB201	235 0049 900	Beads inductor		1
J401~406	209 0008 120	Jumper (L=10)		6
JK101,102	204 8537 012	2P pin jack (GND)		2
JK251~253	204 8417 006	1P pin jack (S-GND)		3
JK401	204 8264 071	Headphone jack (GOLD)		1
S305	212 0410 002	Rotary encorder-JOG		1
S306~322	212 5604 907	Tact switch		17
ST002~004	205 0452 017	Style pin		3
T251	231 8063 009	Pulse trans.		1
W701	203 0322 028	1P contact Ass'y		1
X301	399 0160 905	Ceramic resonator	CST8.00MTW-TF1	1
	461 0862 045	FL spacer (T=5)	for FL tube	2

1U-3290E3, 1U3290E2 POWER P.W.B. UNIT Ass'y

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP			
IC601	263 0801 004	IC NJM7812FA (S)	
IC602	263 0641 002	IC NJM7912FA	
IC603	263 1043 007	IC UPC2405AHF	
IC604	263 0907 005	IC UPC24A05HF	
TR601	273 0384 900	Transistor 2SC2412K (S)	
TR602	271 0238 908	Transistor 2SA1037K (S/R)	
TR603,604	273 0384 900	Transistor 2SC2412K (S)	
TR605	272 0083 004	Transistor 2SB1185 (E/F)	
D601~603	276 0438 910	Diode MA151A	
D604,605	276 0701 003	Diode S2L20U	
D606	276 0438 910	Diode MA151A	
D607,608	276 0553 905	Diode 1SR35-200A	
D611,612	276 0716 001	Diode 31DQ06	
D614~618	276 0701 003	Diode S2L20U	
D619~622	276 0553 905	Diode 1SR35-200A	
ZD601	276 0461 903	Zener diode HZS6A-1	
ZD602	276 0484 906	Zener diode HZS33-1	
RESISTORS GROUP			
R601	247 0012 927	Carbon chip 100kohm 1/10W	RM73B--104J
R602	247 0008 986	Carbon chip 3.9kohm 1/10W	RM73B--392J
R603	247 0009 985	Carbon chip 10kohm 1/10W	RM73B--103J
R604	247 0012 969	Carbon chip 150kohm 1/10W	RM73B--154J
R605	247 0016 923	Carbon chip 4.7Mohm 1/10W	RM73B--475K
R606	247 0011 944	Carbon chip 47kohm 1/10W	RM73B--473J
R607	247 0018 905	Carbon chip 0ohm 1/10W	RM73B--0R0K
R612	247 0012 927	Carbon chip 100kohm 1/10W	RM73B--104J
R614	247 0012 927	Carbon chip 100kohm 1/10W	RM73B--104J
R615	247 0011 944	Carbon chip 47kohm 1/10W	RM73B--473J
R617	247 0011 944	Carbon chip 47kohm 1/10W	RM73B--473J
R619,620	247 0012 927	Carbon chip 100kohm 1/10W	RM73B--104J
R621~624	247 0001 983	Carbon Chip 4.7ohm 1/10W	RM73B--4R7K
R625	247 0009 985	Carbon chip 10kohm 1/10W	RM73B--103J
R626,627	247 0018 905	Carbon chip 0ohm 1/10W	RM73B--0R0K
CAPACITORS GROUP			
C601	256 1059 954	Metallized 0.47µF/50V	CF93A1H474J (JL)
C602	256 1059 912	Metallized 0.22µF/50V	CF93A1H224J (JL)
C603	254 4542 705	Electrolytic 470µF/25V	CE04W1E471M (SMG/RE3)
C604	254 4535 929	Electrolytic 47µF/63V	CE04W1J470M (SMG/RE3)
C605	254 4540 710	Electrolytic 470µF/63V	CE04W1J471M (SMG/RE3)
C606	254 4536 931	Electrolytic 220µF/10V	CE04W1A221M (SMG/RE3)
C607,608	257 0011 941	Ceramic chip 0.022µF/25V	CK73B1E223K
C609	254 4538 971	Electrolytic 470µF/16V	CE04W1C471M (SMG/RE3)
C610	254 4536 931	Electrolytic 220µF/10V	CE04W1A221M (SMG/RE3)
C611,612	257 0011 941	Ceramic chip 0.022µF/25V	CK73B1E223K
C613	254 4442 711	Electrolytic 10000µF/16V	CE04W1C103M (SMG)

Ref. No.	Part No.	Part Name	Remarks
C616	254 4539 705	Electrolytic 1000µF/16V	CE04W1C102M (SMG/RE3)
C617,618	257 0011 941	Ceramic chip 0.022µF/25V	CK73B1E223K
C619	254 4542 718	Electrolytic 3300µF/25V	CE04W1E332M (SMG/RE3)
C622	254 4541 939	Electrolytic 47µF/25V	CE04W1E470M (SMG/RE3)
C623,624	257 0011 941	Ceramic chip 0.022µF/25V	CK73B1E223K
C625	254 4541 939	Electrolytic 47µF/25V	CE04W1E470M (SMG/RE3)
C626	257 0011 941	Ceramic chip 0.022µF/25V	CK73B1E223K
C627	254 4403 718	Electrolytic 1000µF/25V	CE04W1E102M (SMG)
C630	254 4425 709	Electrolytic 2200µF/6.3V	CE04W0J222M (SMG)
C635,636	257 0011 996	Ceramic chip 0.1µF/25V	CK73B1E104K
⚠C901	253 8022 707	Ceramic 0.01µF/250V (AC)	CK45F2EAC103M

OTHER PARTS GROUP				Q'ty
CW091	204 2747 002	9P EH-SCN connector cord		1
CX021	205 0581 001	2P VH connector base		1
CX022	203 3984 007	2P AC inlet (E3)	for E3	1
CX022	203 3985 006	2P AC inlet (E2)	for E2	1
CX071	205 0233 074	7P EH connector base		1
CX091	205 0233 090	9P EH connector base		1
CY021	205 0581 001	2P VH connector base		1
CY111	205 0275 016	11P EH connector base		1
FB601~604	235 0049 900	Beads inductor		4
⚠S901	212 1030 009	Power switch (TV-5)		1
ST101~103	205 0452 017	Style pin		3
	415 0299 000	Condenser cover	for C901	1

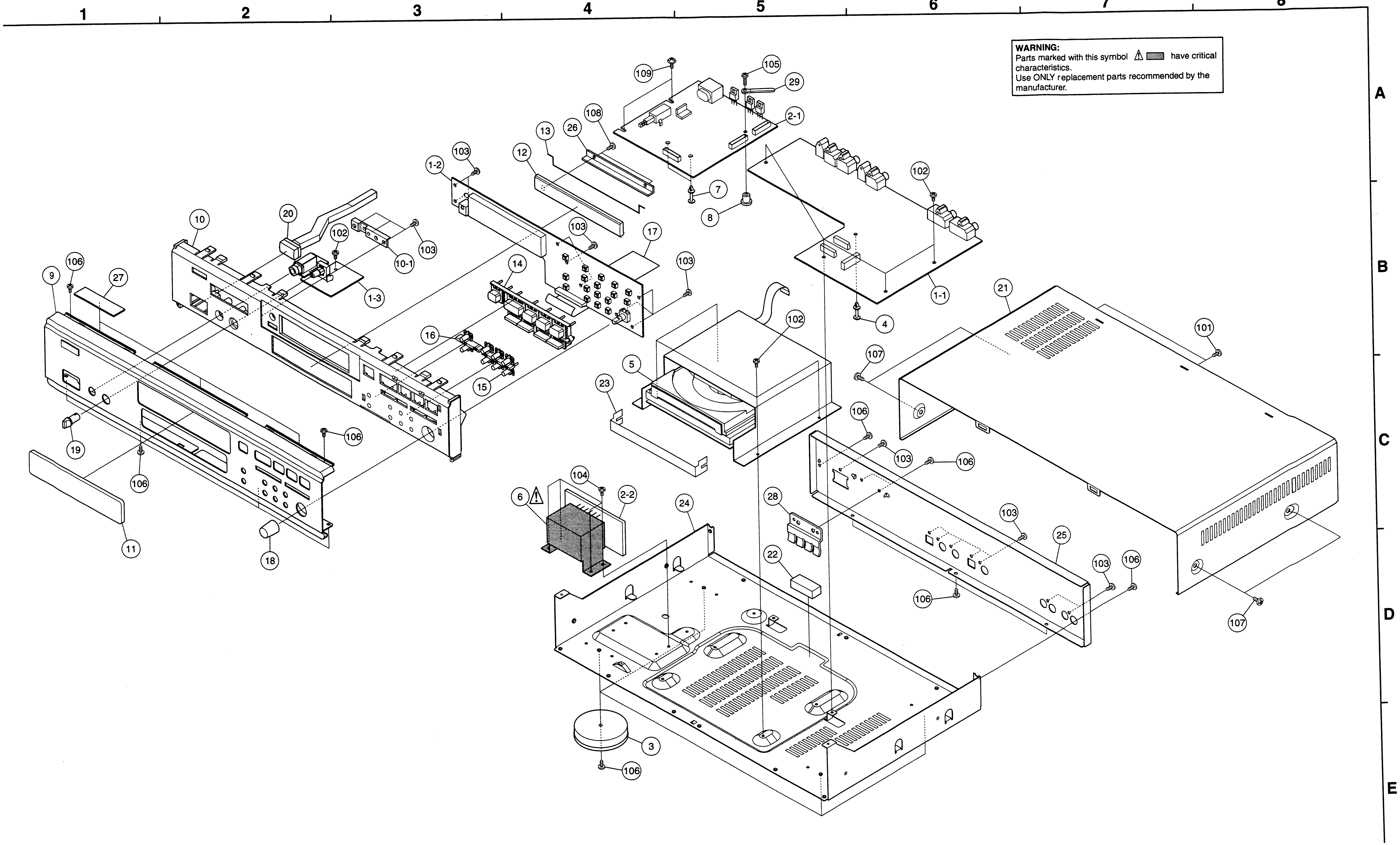
PARTS LIST OF EXPLODED VIEW

Note : The symbols in the column "Remarks" indicate the following destinations.
E3: U.S.A./Canada model
E2: Europe model

Ref. No.	Part No.	Part Name	Remarks	Q'ty
1	1U-3252	DISP. I/O. P.W.B. unit Ass'y		1
1-1		I/O unit		
1-2		Display unit		
1-3		H/P unit		
2	1U-3290E3	Power P.W.B. unit Ass'y (E3)	for E3	1
2	1U-3290E2	Power P.W.B. unit Ass'y (E2)	for E2	1
2-1		Power supply unit		
2-2		Power trans. unit		
3	104 0260 100	Foot Ass'y		4
4	412 2814 028	Card spacer (L=10)		1
5	337 0076 004	CD-R/RW mecha. unit		1
⚠ 6	233 6326 003	Power trans. (E3)	for E3	1
⚠ 6	233 6327 002	Power trans. (E2)	for E2	1
7	412 2814 060	Card spacer (L=16)		2
8	443 1533 003	Collar		1
9	144 2688 005	Front panel Ass'y	Black model	1
9	144 2688 018	Front panel Ass'y	Gold model	1
10	146 2149 207	Inner panel	Black model	1
10	146 2149 210	Inner panel	Gold model	1
10-1	-	H/P holder		1
11	143 1074 109	Window		1
12	146 2150 209	Loader door	Black model	1
12	146 2150 212	Loader door	Gold model	1
13	463 0928 008	Door spring		1
14	113 1849 058	Function knob	Black model	1
14	113 1849 061	Function knob	Gold model	1
15	113 1850 018	Tact knob (6P)	Black model	1
15	113 1850 005	Tact knob (6P)	Gold model	1
16	113 1877 004	Tact knob (2P)	Black model	1
16	113 1877 017	Tact knob (2P)	Gold model	1
17	009 0093 027	13P FFC cable	CN131	1
18	112 0851 002	Knob (Maru)	Black model	1
18	112 0851 015	Knob (Maru)	Gold model	1
19	112 0811 013	Knob (Fuji)	Black model	1
19	112 0811 000	Knob (Fuji)	Gold model	1
20	113 1878 003	P. SW. lever Ass'y	Black model	1
20	113 1878 016	P. SW. lever Ass'y	Gold model	1
21	GEN 4733	Top cover	Black model	1
21	GEN 4732	Top cover	Gold model	1
22	461 1031 066	Spacer	for chassis	1
23	415 0839 004	Blind sheet		1
24	411 1932 306	Chassis		1
25	105 1326 305	Back panel	for E3	1
25	105 1326 321	Back panel	for E2	1
26	412 4583 001	Fix bracket		1
27	461 0501 005	Rubber sheet		3
28	412 4618 002	Spring plate		1
29	445 8028 009	Cord holder		1
★ 30	204 6579 001	10P PH-PH connector cord	CN101	1
★ 31	204 6379 036	11P EH connector cord	CN111	1
★ 32	203 6514 005	4P PH-PH shield connector cord	CN041	1
★ 33	204 2693 020	7P EH-EH connector cord	CX071 to CY071	1
★ 34	203 5132 051	3P VH-VH connector cord	CX021 to CY021	1
★ 35	445 8004 007	Wire clamper		3

Ref. No.	Part No.	Part Name	Remarks	Q'ty
★ 36	513 1581 008	Serial no. sheet	for E3	1
★ 36	513 1642 002	No. sheet	for E2	1
★ 37	513 1381 004	Manufacture date label	E3 only	1
SCREWS & NUTS				
101	473 7015 018	Screw 3×8 CBTS (S)-B		2
102	473 7002 005	Screw 3×6 CBTS (S)-Z		9
103	473 7508 017	Screw 3×10 CBTS (P)-B		19
104	473 7004 016	Screw 4×6 CBTS (S)-Z		4
105	473 7005 044	Screw 3×20 CBTS (S)-Z		1
106	473 7002 021	Screw 3×8 CBTS (S)-B		17
107	477 0263 005	3P. swelling screw	Black model	4
107	477 0263 018	3P. swelling screw	Gold model	4
108	473 8069 005	Screw 1.4×3 CPTS (P-2)-B		2
109	473 8007 025	Cup screw 3×8		2

EXPLODED VIEW OF CHASSIS AND CABINET


1
2
3
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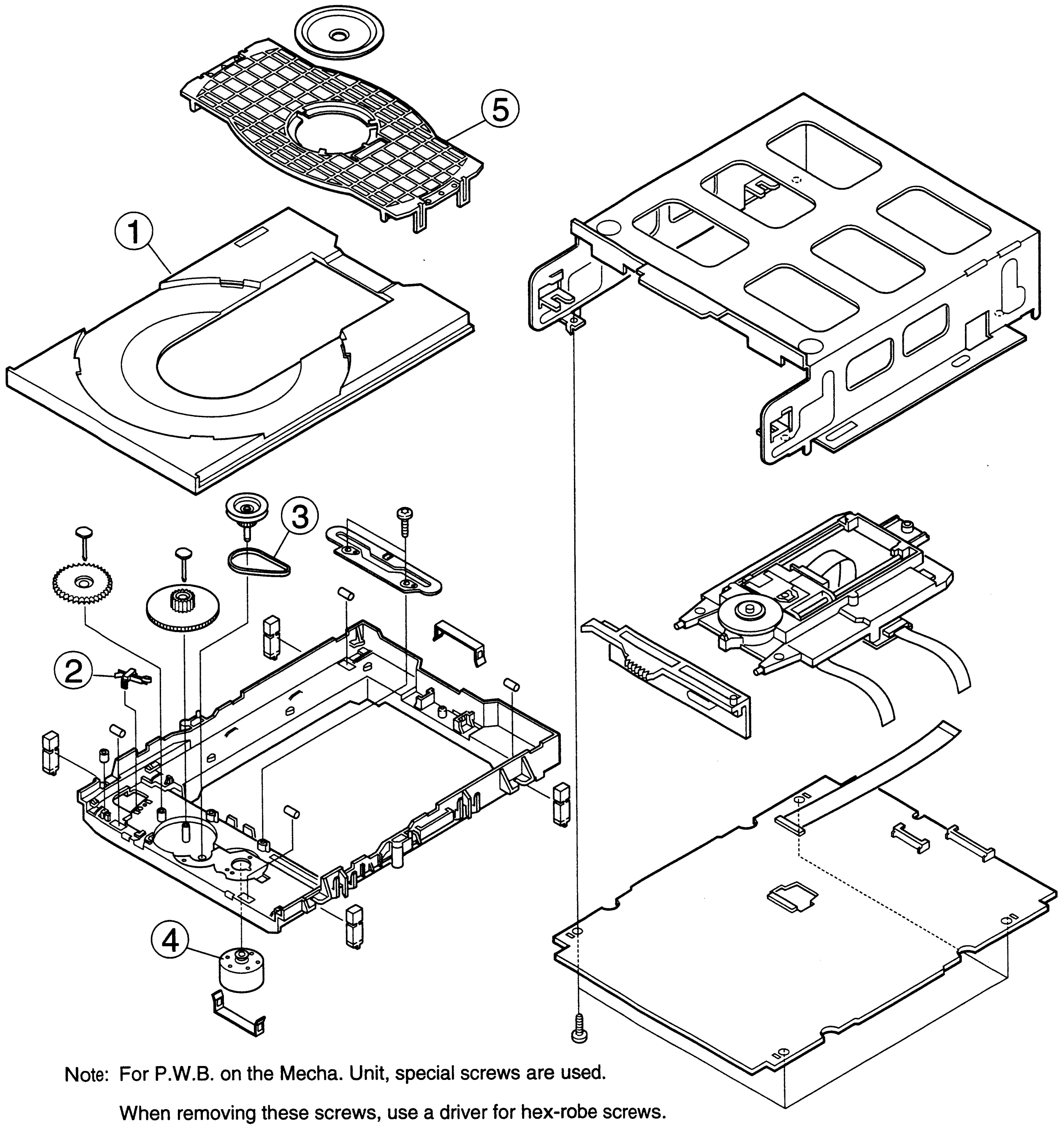
5
6
7
8
A
B
C
D
E
109
105
29
108
2-1
13
26
12
103
1-2
102
7
8
20
10
102
103
10-1
103
17
106
27
9
1-3
14
103
1-1
21
102
4
16
101
107
5
15
23
106
103
106
19
106
11
18
104
6
2-2
24
28
103
25
22
103
106
106
107
3
106

WARNING:
Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

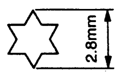
EXPLODED VIEW OF CD-R/RW MECHANISM UNIT



Note: For P.W.B. on the Mecha. Unit, special screws are used.

When removing these screws, use a driver for hex-robe screws.

Shape of the screw head:

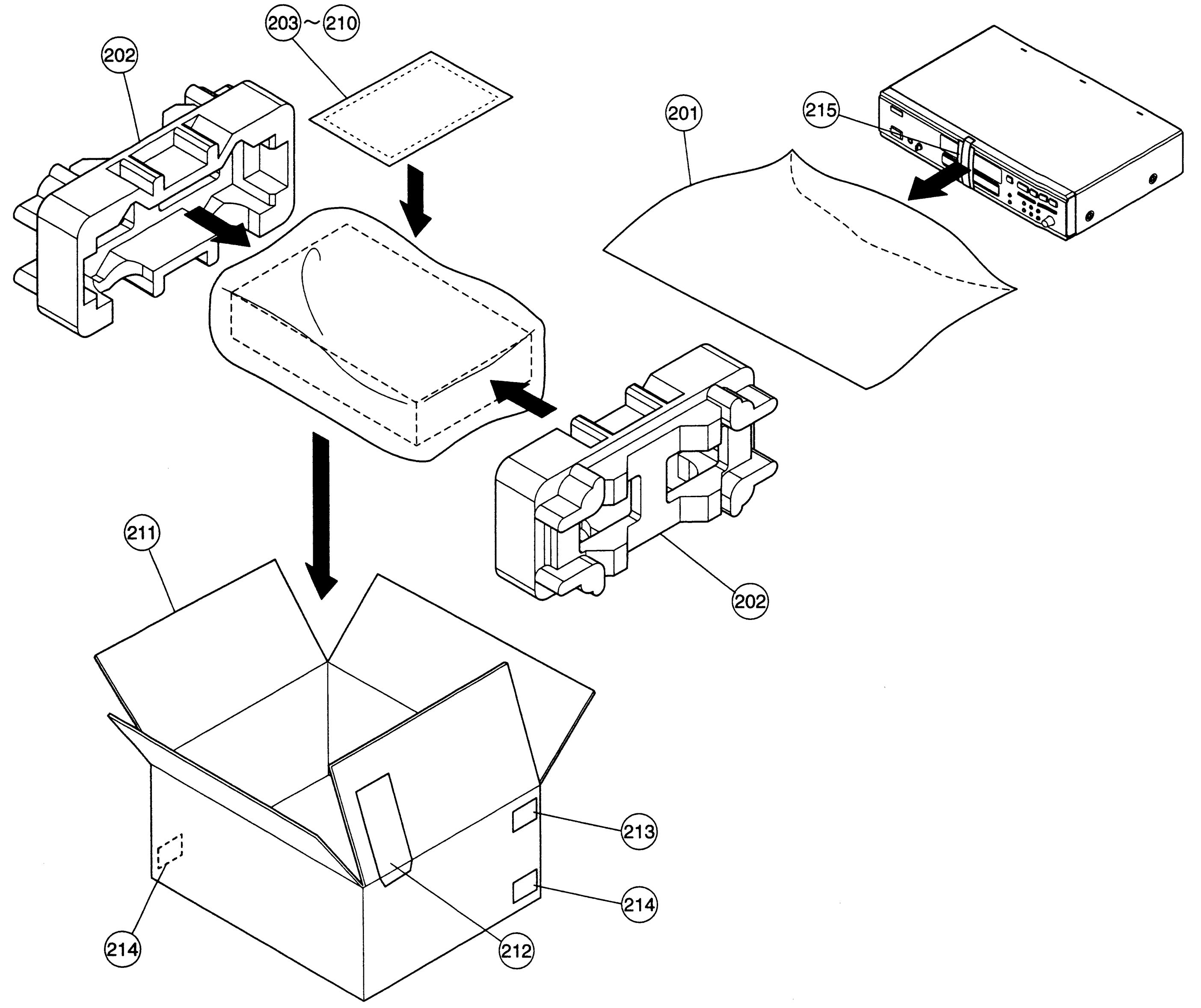


PARTS LIST OF CD-R/RW MECHANISM UNIT

Ref. No.	Part No.	Part Name	Remarks	Q'ty
1		Tray	4822 418 10421	1
2		Tray switch	4822 277 11838	1
3		Loading belt	4822 358 10266	1
4		Tray motor Ass'y	4822 361 11131	1
5		Clamper bridge	4822 466 12132	1

(Only the parts listed in the left table can be changed. Replace the Mecha. Unit if other parts than listed ones are to be repaired.)

PACKING VIEW

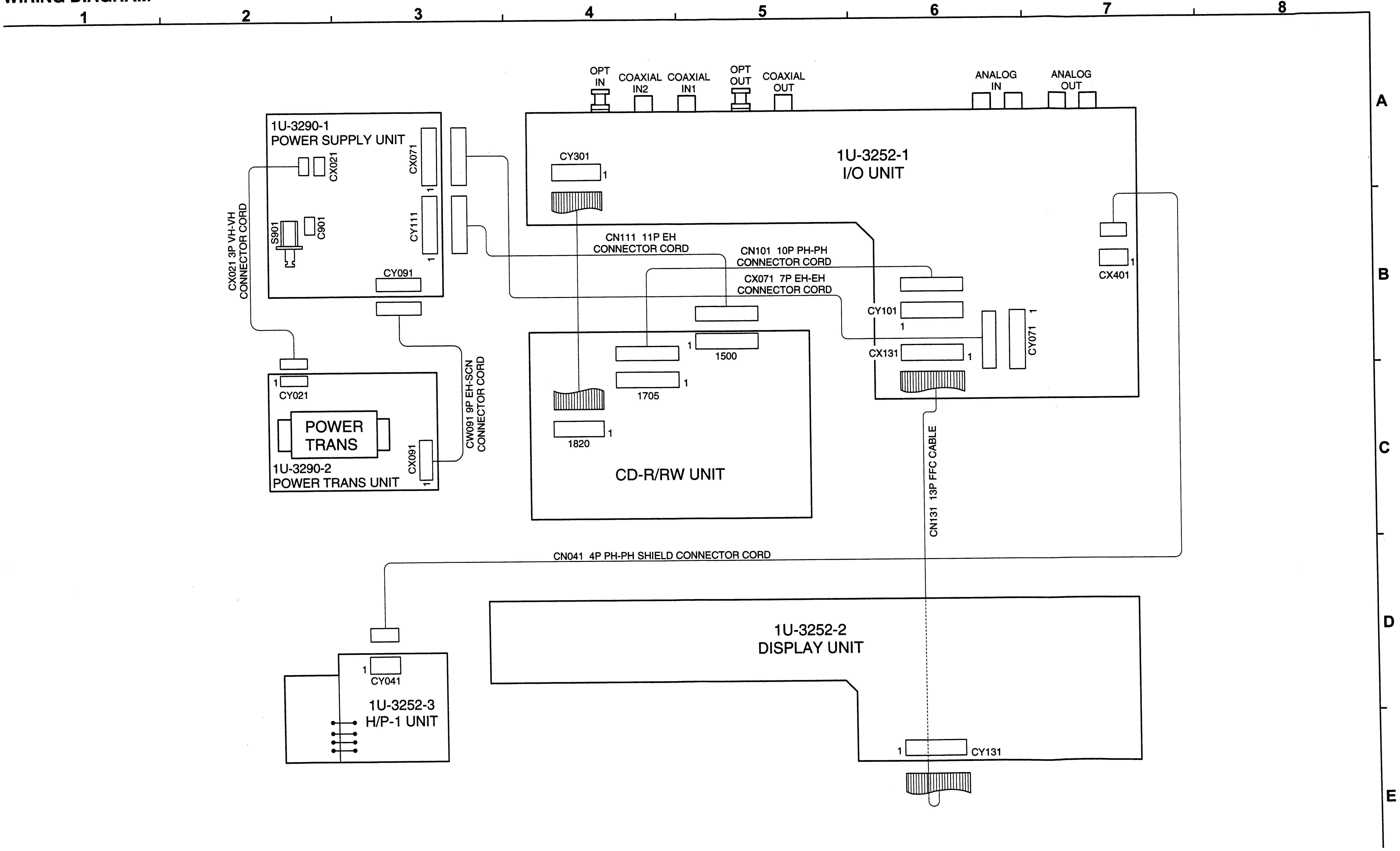


PARTS LIST OF PACKING & ACCESSORIES

Note : The symbols in the column "Remarks" indicate the following destinations.
E3: U.S.A./Canada model
E2: Europe model

Ref. No.	Part No.	Part Name	Remarks	Q'ty
201	505 8092 010	Laminate envelope		1
202	503 1335 105	Cushion		2
203	505 0038 030	Poly. cover		1
204	511 3538 008	Instruction manual (E3)	for E3	1
204	511 3539 007	Instruction manual (E2)	for E2	1
205	515 0867 004	S.S. list (EX)		1
206	203 2360 004	2P pin cord		2
207	351 0001 017	Optical cable		1
208	399 0585 001	Remote control unit	RC-276	1
209	-	Battery (R03X2)		1
210	206 2184 001	AC connector with plug (E3)	for E3	1
210	206 2108 003	AC connector with plug (E2)	for E2	1
211	501 2055 035	Carton case		1
212	515 0690 404	DEL warranty home	E3 only	1
213	-	Bar code label		1
214	-	Control card		1
215	504 0194 007	Protector		1
★ 216	513 9111 001	Color label (gold)	Gold model only	2

WIRING DIAGRAM


1
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3
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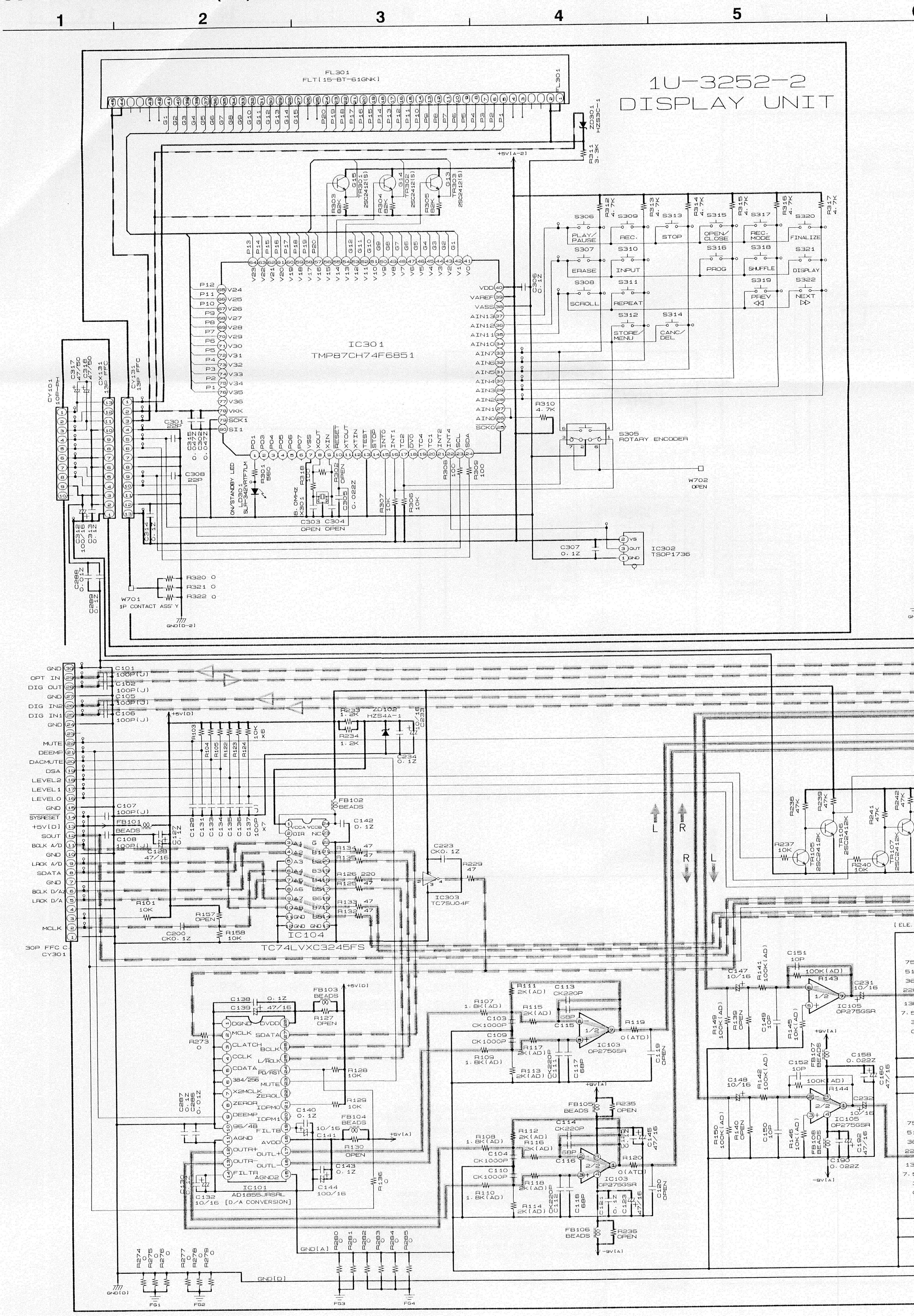
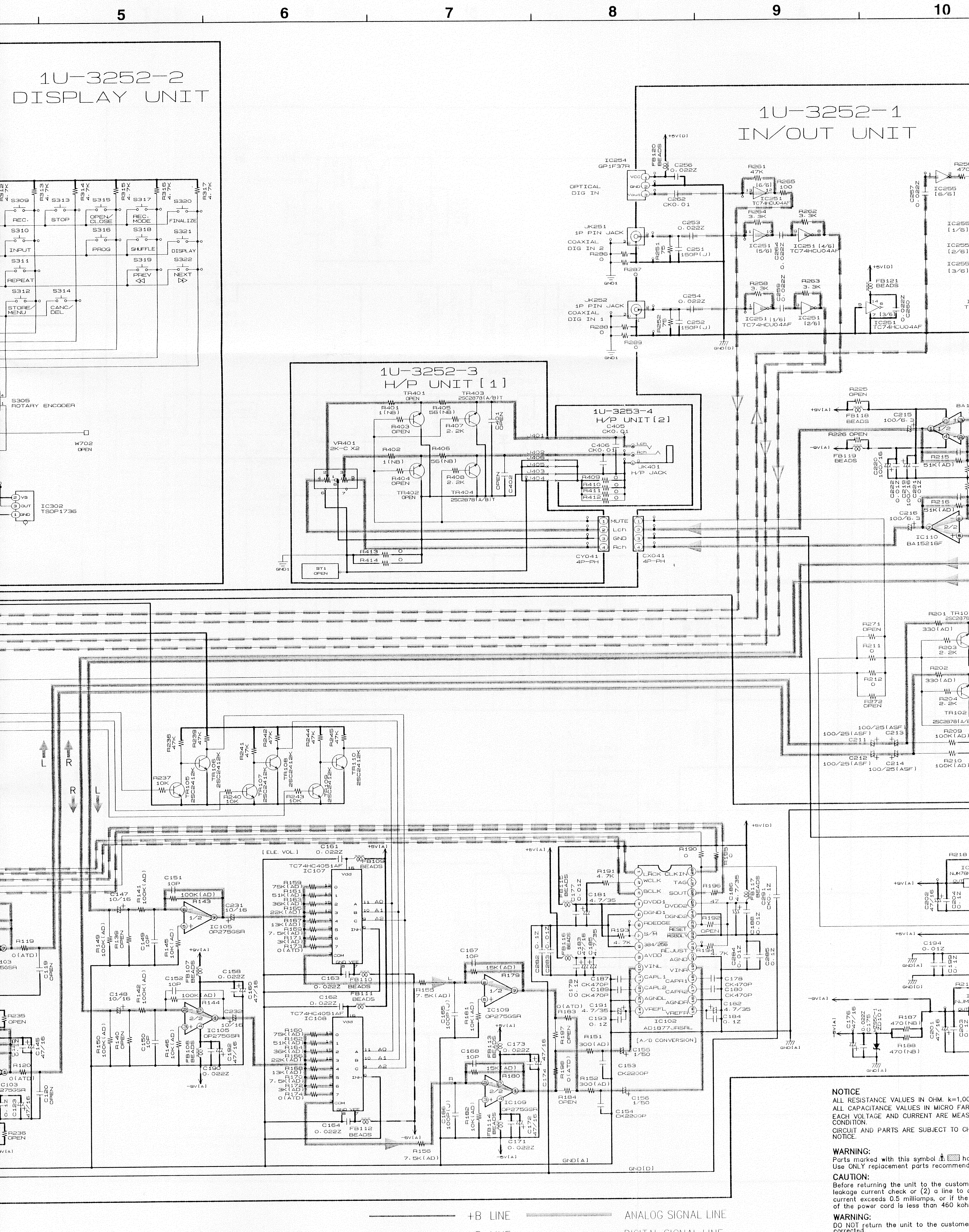
5
6
7
8
A
B
C
D
E
OPT IN
COAXIAL IN2
COAXIAL IN1
OPT OUT
COAXIAL OUT
ANALOG IN
ANALOG OUT
1U-3290-1
POWER SUPPLY UNIT
CX021
CX071
CY111
S901
C901
CY091
1U-3252-1
I/O UNIT
CY301
CX401
CY101
CX131
CY071
CN111 11P EH CONNECTOR CORD
CN101 10P PH-PH CONNECTOR CORD
CX071 7P EH-EH CONNECTOR CORD
CX021 3P VH-VH CONNECTOR CORD
CW091 9P EH-SCN CONNECTOR CORD
1500
1705
1820
CD-R/RW UNIT
CY021
POWER TRANS
1U-3290-2
POWER TRANS UNIT
CX091
CN131 13P FFC CABLE
CN041 4P PH-PH SHIELD CONNECTOR CORD
1U-3252-2
DISPLAY UNIT
CY131
CY041
1U-3252-3
H/P-1 UNIT
1

MEMO:

SCHEMATIC DIAGRAMS (1/2)


1
2
3
4
5
1U-3252-2
DISPLAY UNIT
FL301
FLT(15-BT-61GNK)
ZD301 HZS3C-1
R311 3.3K
+5V(A-2)
TR301 2SC2412(S)
TR302 2SC2412(S)
TR303 2SC2412(S)
R303 82K
R304 82K
R305 82K
IC301
TMP87CH74F6851
VDD
VAREF
VASS
SCK1
SI1
VKK
SCK0
C306 0.1Z
S306 PLAY/PAUSE
S309 REC.
S313 STOP
S315 OPEN/CLOSE
S317 REC. MODE
S320 FINALIZE
S307 ERASE
S310 INPUT
S316 PROG
S318 SHUFFLE
S321 DISPLAY
S308 SCROLL
S311 REPEAT
S319 PREV
S322 NEXT
S312 STORE/MENU
S314 CANC/DEL
R312 4.7K
R313 4.7K
R314 4.7K
R315 4.7K
R316 4.7K
R317 4.7K
R310 4.7K
S305 ROTARY ENCODER
W702 OPEN
CY101 10P-PH
C317 47/50
C318 47/50
CX131 13P FFC
CY131 13P FFC
C301 22P
C315 0.047Z
C302 0.047Z
C308 22P
ON/STANDBY LED
LD301 SLR-342VRTF7LM
R301 560
R318 100
X301 8.0MHz
R302 OPEN
C305 0.022Z
C303 OPEN
C304 OPEN
R307 10K
R306 10K
R308 100
R309 100
C312 100/16
C313 0.1Z
C314 0.1Z
C307 0.1Z
IC302 TSOP1736
C288 0.01Z
C289 0.1Z
W701 1P CONTACT ASS'Y
R320 0
R321 0
R322 0
GND(D-2)
GND
OPT IN
DIG OUT
DIG IN2
DIG IN1
MUTE
DEEMP
DACMUTE
DSA
LEVEL2
LEVEL1
LEVEL0
SYSRESET
+5V(D)
SOUT
BCLK A/D
LRCK A/D
SDATA
BCLK D/A
LRCK D/A
MCLK
30P FFC C
CY301
C101 100P(J)
C102 100P(J)
C105 100P(J)
C106 100P(J)
C107 100P(J)
FB101 BEADS
C108 100P(J)
C127 0.1Z
C128 47/16
R101 10K
R157 OPEN
R158 10K
C200 CK0.1Z
R103
R104
R105
R122
R123
R124
10K x6
C129
C131
C133
C134
C136
C137
100P x7
R233 1.2K
R234 1.2K
ZD102 HZS4A-1
C233 10/16
C234 0.1Z
FB102 BEADS
C142 0.1Z
IC104
TC74LVXC3245FS
R134 47
R135 47
R126 220
R125 47
R133 47
R132 47
C223 CK0.1Z
R229 47
IC303 TC7SU04F
L
R
C138 0.1Z
C139 47/16
FB103 BEADS
+5V(D)
R127 OPEN
R273 0
R128 10K
R129 10K
C140 0.1Z
C141 10/16
FB104 BEADS
+5V(A)
R130 OPEN
C143 0.1Z
C144 100/16
R136 0
C287 0.1Z
C286 0.01Z
C130
C132 10/16
IC101
AD1855JRSRL
[D/A CONVERSION]
DGND
DVDD
MCLK
SDATA
CLATCH
BCLK
CCLK
L/RCLK
CDATA
PD/RST
384/256
MUTE
X2MCLK
ZEROL
ZEROR
IDPM0
DEEMP
IDPM1
96/48
FILTB
AGND
AVDD
OUTR+
OUTL+
OUTR-
OUTL-
FILTR
AGND2
R107 1.8K(AD)
R111 2K(AD)
C113 CK220P
R115 2K(AD)
C103 CK1000P
C115 68P
R119 0(ATD)
C109 CK1000P
R117 2K(AD)
R109 1.8K(AD)
C111 CK220P
C117 68P
R113 2K(AD)
IC103 OP275GSR
C119 OPEN
+9V(A)
FB105 BEADS
R235 OPEN
R108 1.8K(AD)
C114 CK220P
R112 2K(AD)
R116 2K(AD)
C104 CK1000P
C116 68P
R120 0(ATD)
C145 47/16
C110 CK1000P
R118 2K(AD)
R110 1.8K(AD)
C112 CK220P
C118 68P
R114 2K(AD)
C121
C123 47/16
C120 OPEN
FB106 BEADS
R236 OPEN
-9V(A)
R280 0
R281 0
R282 0
R283 0
R284 0
R285 0
GND(A)
R274 0
R275 0
R276 0
R277 0
R278 0
R279 0
GND(D)
FG1
FG2
FG3
FG4
R238 47K
R239 47K
R241 47K
R242 47K
R237 10K
TR105 2SC2412K
TR106 2SC2412K
TR107 2SC2412K
R240 10K
C147 10/16
R141 100K(AD)
C151 10P
R143 100K(AD)
C231 10/16
IC105 OP275GSR
R149 100K(AD)
R139 OPEN
C149 10P
R145 10K(AD)
FB107 BEADS
C158 0.022Z
C160 47/16
C148 10/16
R142 100K(AD)
C152 10P
R144 100K(AD)
C232 10/16
R150 100K(AD)
R140 OPEN
C150 10P
R146 10K(AD)
FB108 BEADS
C190 0.022Z
C192 47/16
-9V(A)
[ELE.



5
6
7
8
9
10
1U-3252-2
DISPLAY UNIT
1U-3252-1
IN/OUT UNIT
1U-3252-3
H/P UNIT [1]
1U-3253-4
H/P UNIT [2]
S309
S313
S315
S317
S320
REC.
STOP
OPEN/CLOSE
REC. MODE
FINALIZE
S310
S316
S318
S321
INPUT
PROG
SHUFFLE
DISPLAY
S311
S319
S322
REPEAT
PREV
NEXT
S312
S314
STORE/MENU
CANC/DEL
S305
ROTARY ENCODER
W702
OPEN
IC302
TSOP1736
IC254
GP1F37R
OPTICAL
DIG IN
JK251
1P PIN JACK
COAXIAL
DIG IN 2
JK252
1P PIN JACK
COAXIAL
DIG IN 1
IC251
TC74HCU04AF
VR401
2K-C X2
JK401
H/P JACK
MUTE
Lch
GND
Rch
CY041
4P-PH
CX041
4P-PH
IC110
BA15218F
[ELE. VOL.]
TC74HC4051AF
IC107
TC74HC4051AF
IC106
IC105
OP275GSR
IC109
OP275GSR
IC102
AD1877JRSRL
[A/D CONVERSION]
NJM78
L
R
+B LINE
-B LINE
ANALOG SIGNAL LINE
DIGITAL SIGNAL LINE

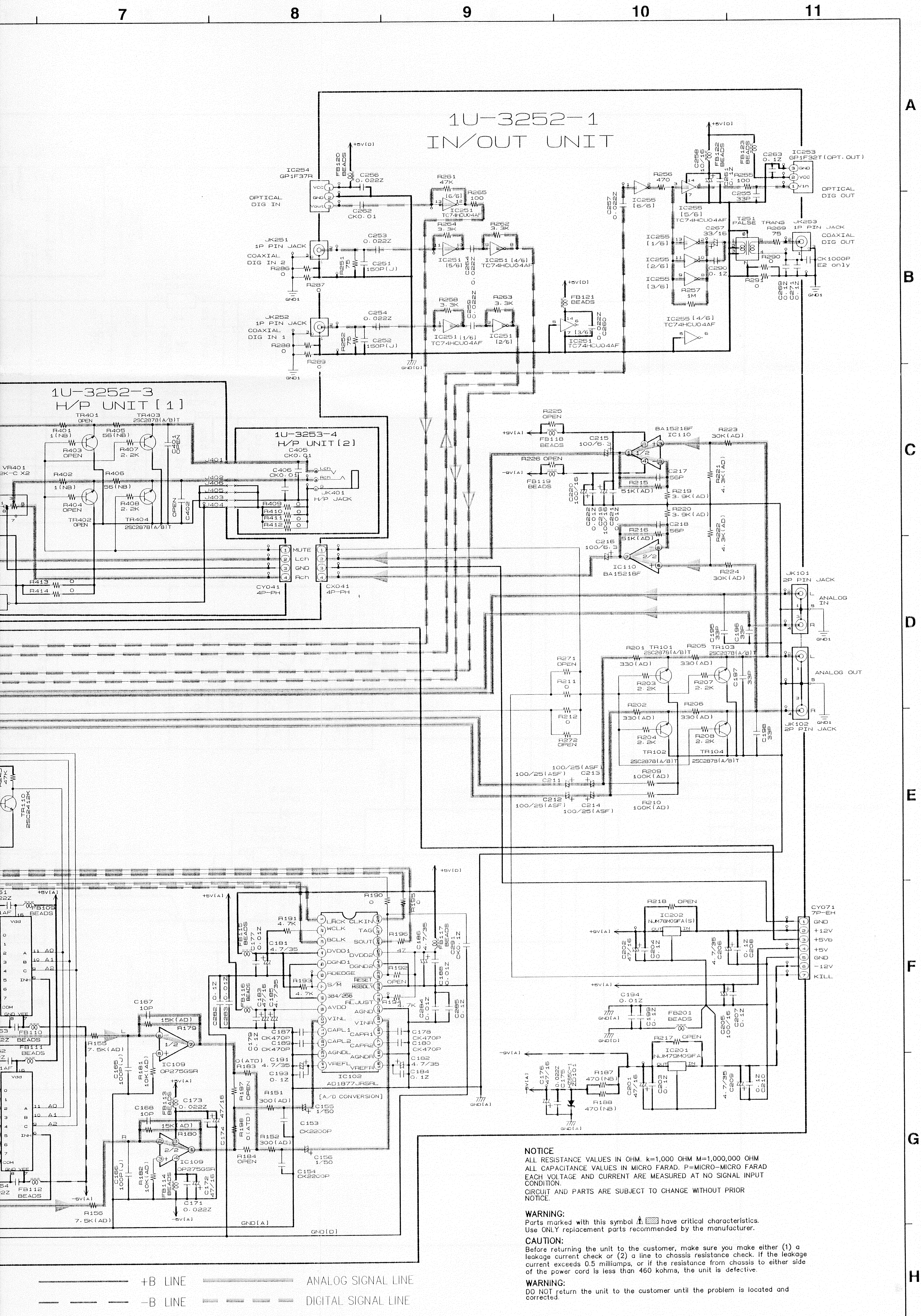
NOTICE
ALL RESISTANCE VALUES IN OHM. k=1,00
ALL CAPACITANCE VALUES IN MICRO FAR
EACH VOLTAGE AND CURRENT ARE MEAS
CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CH
NOTICE.

WARNING:
Parts marked with this symbol ⚠ ▨ h
Use ONLY replacement parts recommend

CAUTION:
Before returning the unit to the custom
leakage current check or (2) a line to
current exceeds 0.5 milliamps, or if the
of the power cord is less than 460 koh

WARNING:
DO NOT return the unit to the custome
corrected.

SC
1U-3


7
8
9
10
11
A
B
C
D
E
F
G
H
1U-3252-1
IN/OUT UNIT
IC254
GP1F37R
OPTICAL
DIG IN
JK251
1P PIN JACK
COAXIAL
DIG IN 2
JK252
1P PIN JACK
COAXIAL
DIG IN 1
IC251
TC74HCU04AF
IC255
TC74HCU04AF
T251
PALSE TRANS
IC253
GP1F32T(OPT. OUT)
OPTICAL
DIG OUT
JK253
1P PIN JACK
COAXIAL
DIG OUT
CK1000P
E2 only
FB121
BEADS
1U-3252-3
H/P UNIT [1]
1U-3253-4
H/P UNIT [2]
JK401
H/P JACK
MUTE
Lch
GND
Rch
CY041
4P-PH
CX041
4P-PH
IC110
BA15218F
JK101
2P PIN JACK
ANALOG
IN
ANALOG OUT
JK102
2P PIN JACK
TR101
2SC2878(A/B)T
TR103
2SC2878(A/B)T
TR102
2SC2878(A/B)T
TR104
2SC2878(A/B)T
CY071
7P-EH
GND
+12V
+5Vb
+5V
GND
-12V
KILL
IC202
NJM78M09FA(S)
IC201
NJM79M09FA
FB201
BEADS
IC102
AD1877JRSRL
[A/D CONVERSION]
IC109
OP275GSR
TR110
2SC2412K
+5V(D)
+5V(A)
-5V(A)
-9V(A)
+9V(A)
GND(A)
GND(D)
GND1
+B LINE
-B LINE
ANALOG SIGNAL LINE
DIGITAL SIGNAL LINE

NOTICE
ALL RESISTANCE VALUES IN OHM. k=1,000 OHM M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

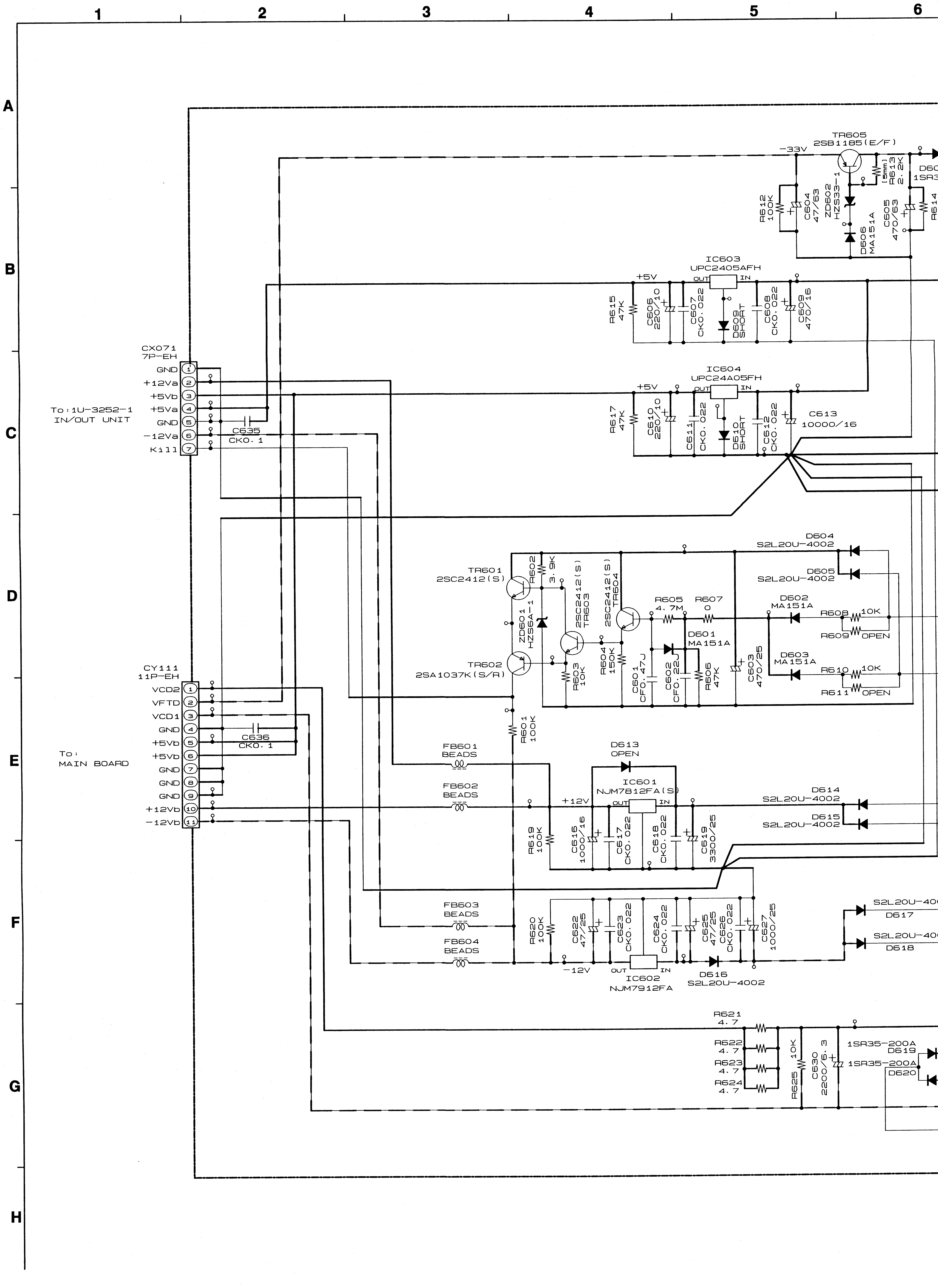
WARNING:
Parts marked with this symbol ⚠ ▨ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

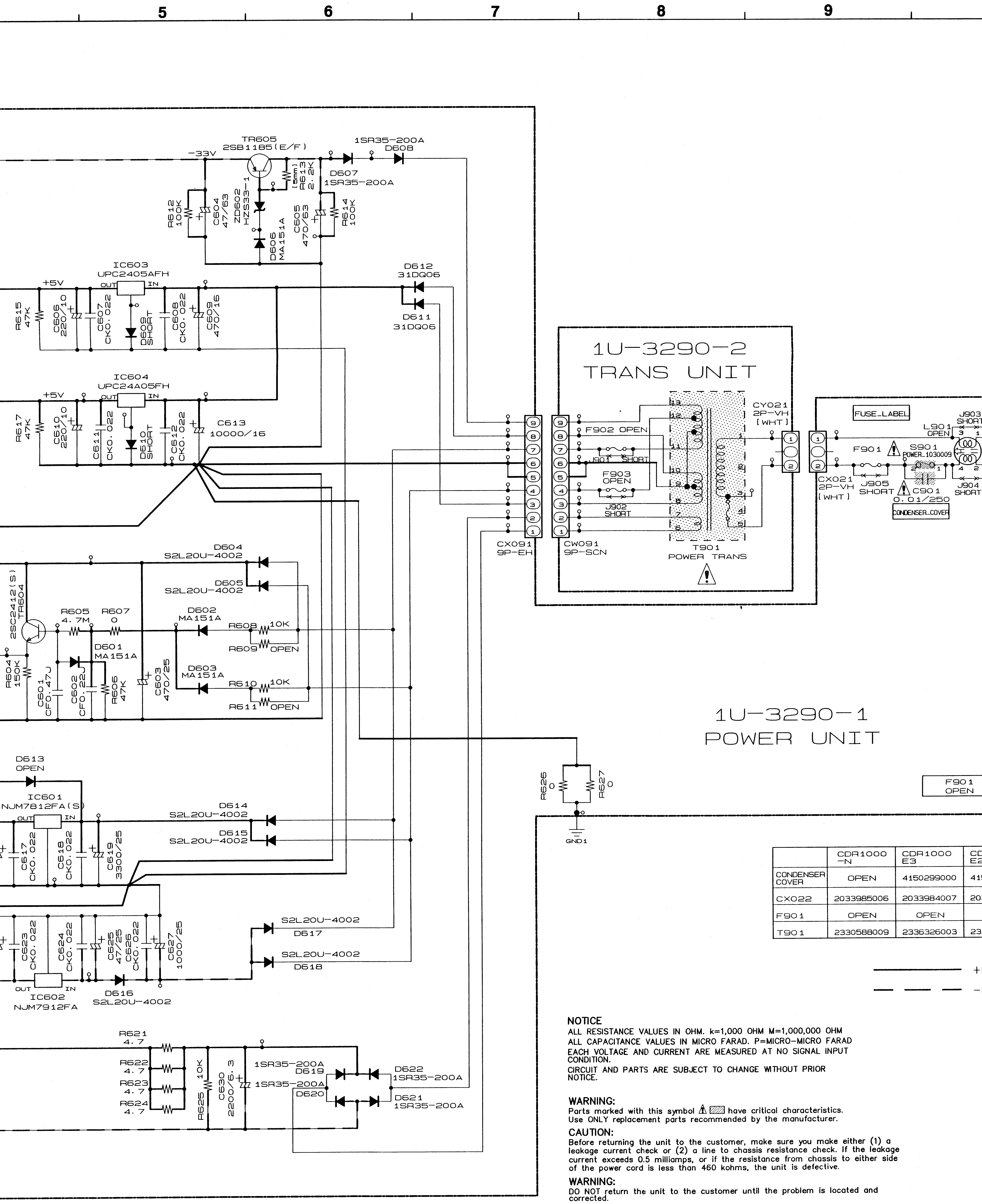
CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 460 kohms, the unit is defective.

WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.

SCHEMATIC DIAGRAMS (1/2)
1U-3252 DISPLAY UNIT

SCHEMATIC DIAGRAMS (2/2)


1
2
3
4
5
6
A
B
C
D
E
F
G
H
TR605
2SB1185(E/F)
-33V
R613
2.2K
[5mm]
R612
100K
C604
47/63
ZD602
HZS33-1
D606
MA151A
C605
470/63
R614
IC603
UPC2405AFH
+5V
OUT
IN
R615
47K
C606
220/10
C607
CK0.022
D609
SHORT
C608
CK0.022
C609
470/16
CX071
7P-EH
GND
+12Va
+5Vb
+5Va
GND
-12Va
Kill
To:1U-3252-1
IN/OUT UNIT
C635
CK0.1
IC604
UPC24A05FH
R617
47K
C610
220/10
C611
CK0.022
D610
SHORT
C612
CK0.022
C613
10000/16
D604
S2L20U-4002
D605
S2L20U-4002
TR601
2SC2412(S)
R602
3.9K
ZD601
HZS6A-1
2SC2412(S)
TR603
2SC2412(S)
TR604
R605
4.7M
R607
0
D602
MA151A
R608
10K
R609
OPEN
D601
MA151A
D603
MA151A
R610
10K
R611
OPEN
TR602
2SA1037K(S/R)
R603
10K
R604
150K
C601
CF0.47J
C602
CF0.22J
R606
47K
C603
470/25
CY111
11P-EH
VCD2
VFTD
VCD1
GND
+5Vb
+5Vb
GND
GND
GND
+12Vb
-12Vb
To:
MAIN BOARD
C636
CK0.1
R601
100K
FB601
BEADS
D613
OPEN
IC601
NJM7812FA(S)
FB602
BEADS
+12V
D614
S2L20U-4002
D615
S2L20U-4002
R619
100K
C616
1000/16
C617
CK0.022
C618
CK0.022
C619
3300/25
FB603
BEADS
FB604
BEADS
R620
100K
C622
47/25
C623
CK0.022
C624
CK0.022
C625
47/25
C626
CK0.022
C627
1000/25
S2L20U-40
D617
S2L20U-40
D618
-12V
IC602
NJM7912FA
D616
S2L20U-4002
R621
4.7
R622
4.7
R623
4.7
R624
4.7
R625
10K
C630
2200/6.3
1SR35-200A
D619
1SR35-200A
D620
D60
1SR3


5
6
7
8
9
TR605
2SB1185(E/F)
-33V
1SR35-200A
D608
D607
1SR35-200A
[5mm]
R613
2.2K
R612
100K
C604
47/63
ZD602
HZS33-1
D606
MA151A
C605
470/63
R614
100K
IC603
UPC2405AFH
+5V
OUT
IN
R615
47K
C606
220/10
C607
CK0.022
D609
SHORT
C608
CK0.022
C609
470/16
D612
31DQ06
D611
31DQ06
IC604
UPC24A05FH
+5V
R617
47K
C610
220/10
C611
CK0.022
D610
SHORT
C612
CK0.022
C613
10000/16
1U-3290-2
TRANS UNIT
F902 OPEN
J901 SHORT
F903
OPEN
J902
SHORT
CY021
2P-VH
[WHT]
CX091
9P-EH
CW091
9P-SCN
T901
POWER TRANS
CX021
2P-VH
[WHT]
FUSE_LABEL
L901
OPEN
F901
S901
POWER_1030009
J905
SHORT
C901
0.01/250
CONDENSER_COVER
J903
SHORT
J904
SHORT
D604
S2L20U-4002
D605
S2L20U-4002
2SC2412(S)
TR604
R605
4.7M
R607
0
D602
MA151A
R608
10K
R609
OPEN
D601
MA151A
R604
150K
C601
CF0.47J
C602
CF0.22J
R606
47K
C603
470/25
D603
MA151A
R610
10K
R611
OPEN
1U-3290-1
POWER UNIT
R626
0
R627
0
GND1
F901
OPEN
D613
OPEN
IC601
NJM7812FA(S)
OUT
IN
D614
S2L20U-4002
D615
S2L20U-4002
C617
CK0.022
C618
CK0.022
C619
3300/25
C623
CK0.022
C624
CK0.022
C625
47/25
C626
CK0.022
C627
1000/25
S2L20U-4002
D617
S2L20U-4002
D618
OUT
IN
IC602
NJM7912FA
D616
S2L20U-4002
R621
4.7
R622
4.7
R623
4.7
R624
4.7
R625
10K
C630
2200/6.3
1SR35-200A
D619
1SR35-200A
D620
D622
1SR35-200A
D621
1SR35-200A
+
−

	CDR1000 -N	CDR1000 E3	CD E2
CONDENSER COVER	OPEN	4150299000	41
CX022	2033985006	2033984007	20
F901	OPEN	OPEN	
T901	2330588009	2336326003	23

NOTICE

ALL RESISTANCE VALUES IN OHM. k=1,000 OHM M=1,000,000 OHM

ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD

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WARNING:

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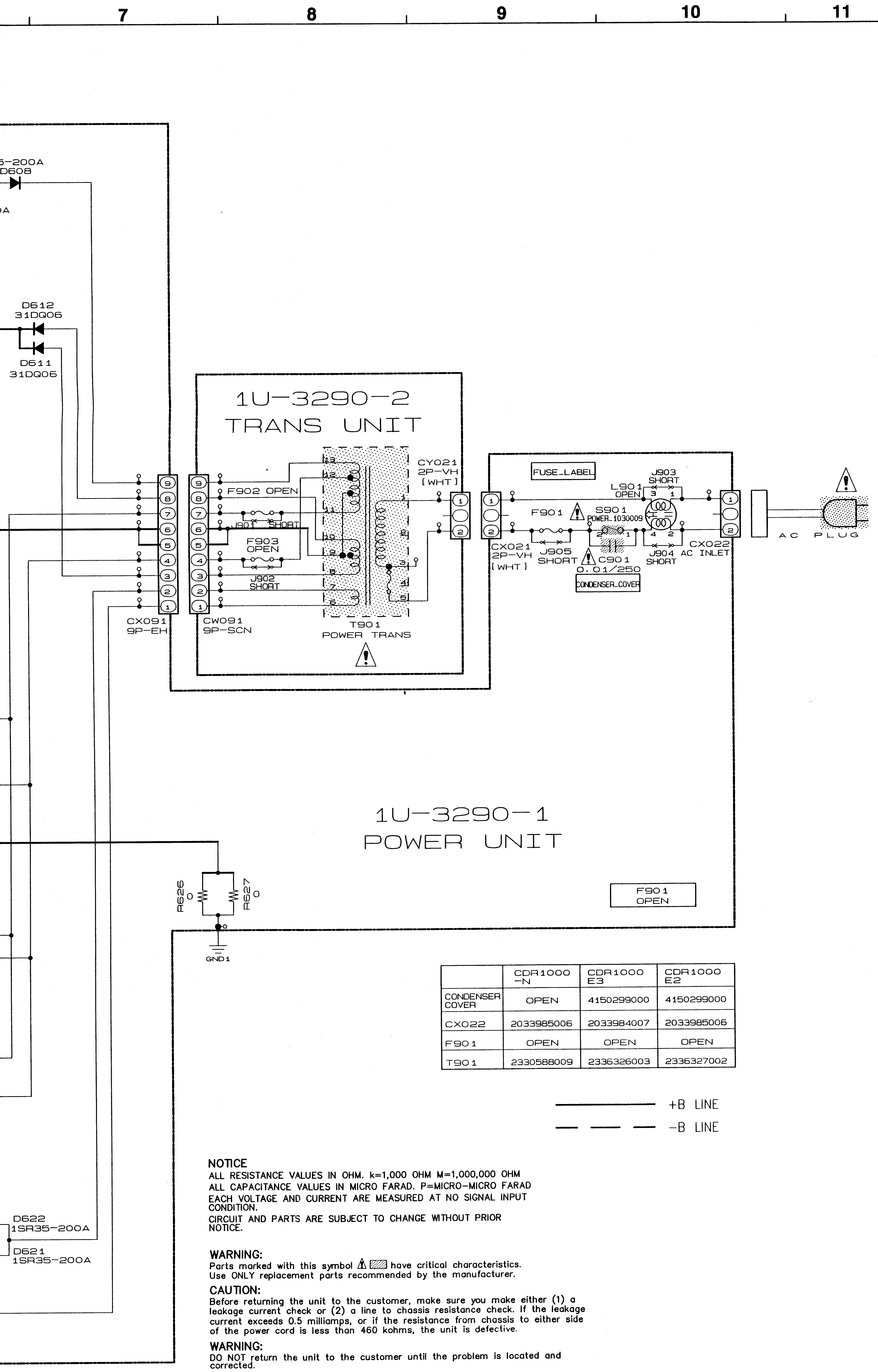
SCHEMATIC DIAGRAMS (2/2)

1U-3290 POWER UNIT


7
8
9
10
11
5–200A
D608
A
D612
31DQ06
D611
31DQ06
1U–3290–2
TRANS UNIT
CY021
2P–VH
[WHT]
F902 OPEN
J901 SHORT
F903
OPEN
J902
SHORT
CX091
9P–EH
CW091
9P–SCN
T901
POWER TRANS
FUSE_LABEL
L901
OPEN
J903
SHORT
F901
S901
POWER_1030009
CX021
2P–VH
[WHT]
J905
SHORT
C901
0.01/250
CONDENSER_COVER
J904
SHORT
CX022
AC INLET
AC PLUG
1U–3290–1
POWER UNIT
R626
0
R627
0
GND1
F901
OPEN
D622
1SR35–200A
D621
1SR35–200A

	CDR1000 –N	CDR1000 E3	CDR1000 E2
CONDENSER COVER	OPEN	4150299000	4150299000
CX022	2033985006	2033984007	2033985006
F901	OPEN	OPEN	OPEN
T901	2330588009	2336326003	2336327002

———— +B LINE

— — — — –B LINE

NOTICE

ALL RESISTANCE VALUES IN OHM. k=1,000 OHM M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

WARNING:
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CAUTION:
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WARNING:
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SCHEMATIC DIAGRAMS (2/2)

1U-3290 POWER UNIT